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MEDICINE OF THE FUTURE.*

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If the medicine of the future as an abstract discussion offers problems which seem in our day difficult to penetrate, we must remember that we are fortunate in living at a time in the world's history when science can really give a scientific reason for its existence. Our fathers trod the pathway of science with only here and there a problem that was settled to a degree sufficient to make it useful in their daily round.

They only occasionally cleared up anything that would add to the symmetry of the temple of scientific medicine. They laid here and there a stone in the foundation, and this often without cement. They established almost no principle worthy the name. They began just as life begins when it first consciously exists, by groping after the immediate needs for prolonging its existence and adding to its comfort. It is these things which have grown out of their immediate needs which have been handed down to us and which we have proudly designated as the science and the art of medicine.

No answer comes when we attempt to inquire why the Unknown did not give us a fully-developed science the same day that we were given the air we breathe. All that we can find in the way of answer is that we were given only possibilities. It has taken centuries for scientific men to realize how great these possibilities are. It is but a few years since we all talked of the impossibilities of science and with confidence fixed the degree of its limitations. Overwrought, indeed, in this day would a mind be considered that attempted to outline any such limitations. But no good thing in science has ever come quickly. It was evidently intended that science should be given to the race only in the degree that it was capable of appreciation by the race. Hopelessness as to final results has been the beginning of every scientific principle, except with the few optimists who continually write for us a story of possibilities in the future. The theory or ideal side of human existence has always been at war with the real or practical effects of this existence. Theoret-

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ically, we look upon disease and death as a calamity of far-reaching importance. Practically, we utterly disregard these great impediments to our progress, treating them as if they were mere incidents in the onward march toward that goal which has limitless possibilities. The tears that choke the ducts of the eyes because death has won another victim last but for a moment, while science in the same spirit makes record merely of a momentary defeat. The future medicine will always inherit from the past that which must always be the inspiration of every good physician, i. e., character. The future medicine will recognize that the men in medicine of the past were good observers and, therefore, not ignorant of the problems that confronted them.

Medicine of the future will never cease to recognize the value to the profession and to the world the services of the known and unknown scientists in and out of our profession who started us on the pathway of true scientific accomplishment. It began with a single mind leading all the rest. It advanced when other minds joined with that of a master whose supreme effort was to remove the mental and physical sufferings of the race. It has reached its noblest proportions in our day wherein we are living witnesses to the fact of thousands of earnest workers, giving without reserve the best that there is in them for the removal of physical disease and physical death from the world forever. Indeed, the promise seems to have passed beyond the world of doubt where, in some future time that is surely coming, physical suffering will be left to the memory of the historian and pain merely one of the themes of the poet and dramatist.

Finally the world will know that all true scientific endeavor has rendered an invaluable service aside from the efforts of medical men to relieve the physical ills of mankind. They questioned all things, and in questioning, reasoned, and while reasoning, analyzed as to man's relation to things not only physical, but spiritual as well. The result of this has been that brutalizing and tyrannical ignorance is being beaten back to where even the spiritual life of the race is to be made nobler and more enduring. As science advances it is fair to presume that it will become less simple. But it will be aided and encouraged and understood by a gradually and grandly growing world-wide intelligence which will have as its basis a more complete general education.

In the presentation of my subject for the honor of your consideration it will naturally divide itself into two important periods—the immediate and the remote future. The immediate future we will consider as that period which is to be covered by the span of your life and mine, the end of which will be when we sit down to watch for the last time the descent of the sun behind the western hills. The remote future of medicine on that same evening will appear before you, and you and I will see with the eye of inspiration for that grand future time only what we have honestly put into the medicine of our period of life. I trust that I may be pardoned if I do not attempt to draw very closely what I consider will be the accepted standards for medicine as a science in either of these periods.

Before attempting to prophesy, however, as to the future, let us give one glance into the past. Medical historians tell us that Jenner discovered vaccination. But it is nearer the truth to say that the great service he did for mankind was merely the recording of an observation which had been the common property of the dairy farmers of that part of England for years. His position as a physician made it possible for him to bring it to the attention of our profession and through them to the needs of a suffering world. But Edward Jenner did not go beyond the practical application of this observation which history tells us was told him by a milkmaid. He did not even follow the advice of his great teacher, John Hunter, who, when his pupil told him of his ideas regarding the prevention of smallpox by the inoculation of the virus of cow pox, is said to have replied: "Do not think; investigate." Had Jenner followed that advice his observation as to the prevention of smallpox would have been, as it should have been, the forerunner of many real discoveries. Not a single new line of inquiry resulted from this epoch-making observation. Indeed, the physicians of his time, and for long after, wrangled over the vagaries of Hahnemann rather than to constructively question the amazing plenteousness of the results of this work of Jenner's. In his day and for fifty years afterward the time of the scientist in medicine was devoted to the study of the symptoms of disease. But about this time two tremendous human scientific dynamos arose in the horizon of human knowledge, and with them the medicine of the future saw its first birth. The one was the chemist, Pasteur. The other was the physician and pathologist, Rudolph Virchow.

The decalogue of the moral world was written centuries ago by a single master mind on tables of stone. These prepared a disease-racked world for the second decalogue which was to be unfolded by the scalpel and the microscope of Louis Pasteur (1857) and Rudolph Virchow (1858). How grateful we humble physicians should be, and I say it reverently, that the great overruling mystery of life should do science the honor of giving it two such minds as these to lead it out of the wilderness of dogma and opinion into the clear white light where investigation without prejudice is to be the rule, not only now, but forever. Pasteur discovered that disease was due to fermentation. Virchow announced that the pathology of disease was due to the perversion of the living cell. Together they led the scientific world back to the basic principles of life as the only proper field for investigation, just as Moses led the children of Israel out of the wilderness of ignorance and superstition.

It would seem that the next great move in medicine must be its consideration from the standpoint of physiology and of physiological chemistry. It was said a moment ago that the physician of the future would maintain, as had his forebears, his personal character and the respect that has been given him in all ages because of it. He is also to do more than this in that he will give character to the scientific side of his profession. Out of this will grow the respect of even the man in the street, not only for the science of medicine, but for all true science. The time is not far distant when he who exults in what he may believe to be the

ignorance of science will find no facts for the shafts of his witless wit. The day in which medicine will no longer be spoken of as mere art is almost here. The days of radicalism in medicine are gone never to return. The radical in medicine will never be listened to again. The day of schools in medicine is also gone never to return. The statement of a brilliant writer recently made that "Medicine is an art that sometimes cures, often relieves and always comforts" will, in the light of the forward movements of the pointer on the dial of time, be revised so as to read: Medicine is *the* science that always comforts, always relieves and always cures. Medicine to-day is traveling in seven-league boots and it will continue so to travel until the remote period, already referred to, when the medicine of the future has arrived. Medicine will never reach its highest development until every physician has the heart and brain of the very best that has ever inspired the great human family. In addition to this he must possess the instincts and the training of the true scientist. This training will never be received under present methods.

In order to give the public the best that the medicine of the future has to offer it will be necessary to devise some means by which the physician in his daily rounds can obtain and make use of the practical results of the work of the laboratories and individual expert investigators. At present the laboratories and hospitals are furnishing valuable knowledge for the prevention and cure of disease faster than it can be given to or made practical use of by the physician in his everyday work. This is one of the problems for the future medicine. Just in the degree that it is settled, just in that measure will the sick public be benefited. In the future every county seat will have a bureau of information on medical matters in order to provide physicians with the latest advice along the newer lines of medical thought and practice. This will be done in most instances by the County Medical Society in coöperation with the County Commissioners. The present enormous monetary waste to the profession, and to the public as well, whereby every progressive physician must own expensive, but often infrequently-needed apparatus, will be done away with. Every county society will make it finally unnecessary for the profession as individuals in a given county to own expensive reference books, or to try and be experts in a half-dozen different branches of medicine. This is impossible. But this bureau of information will give the practitioner of medicine a ready means, not only of making use in a practical way for the benefit of his patients of the latest developments in medicine, but it will furnish him what is almost impossible to provide in the average office to-day, viz., assistance for the complete examination of his patients. Only in some such way as this can the profession and the public receive the full benefits of the work being done in the centers where scientific medical work is the rule.

Medicine of the future will require that the physician begin his work with a more than adequate preliminary literary and scientific education. Medicine of the future will require that this man or woman shall also have, before setting up as a physician, a hospital training. Only in some such way as this will the regrets that sadden the last days

of every conscientious physician over the memory of early failures that would have been avoided by a better system of medical education be reduced to a minimum. The medicine of the future is to see the day where the doctor in the country is to come into his own. The hospitals and laboratories will be in the country. The unsanitary city with its noise and dust and dirt will finally be made over. But the question of expense for ground and equipment will force these great humane cradles for the helpless into an environment more suitable for their highest development.

The medicine of the future will find the physician recognizing his need for dependence upon his colleagues. Medicine of the future will understand and correct the loss that is sustained in our day by our failure to recognize that back of every physician are the good angels, Ambition, Hope, Aspiration, Good-fellowship, and the sincere desire to be well thought of by his fellows. In the bitter working out of history your profession and mine have been slow to recognize this. In the medicine of the future the physician will not be circumscribed by state lines as in our day. Our colleague in another state, if he be in good standing in his county society, will find no legal hindrance to practicing his profession wherever the flag of his country marks its domain.

The great public does not know that the mortality from disease has been reduced 40 per cent. Again, this same public does not know that from ten to twelve years have been added to the expectancy of human life up to forty-five years. This not knowing is the explanation that this same public is so willing to put the possessor of some fantastic 'pathy or 'ism alongside of the educated physician from whom only these benefits have come. These humiliating and often discouraging hindrances of our day will not be known to the medicine of the future.

Science is surrounded by inexorable laws that are always true. It was Carlyle who recognized this when he said that "a lie in science can not live." Science is to be the final message that will prove not only the wisdom, but the beneficence of God. All that has gone before has been the mere bumping against scientific truth until we are being moulded into patterns that have on them the divine impress of that which all men will recognize as correct. It is not fair to presume that any of the facts of nature were ever intended to be hidden permanently. Science is merely waiting for a man to uncover them. The *x*-ray, that unknown quantity of light, stole along its silent path when the morning stars first sang together. Science will never be satisfied until it can "take life in its hands and play with it." Nature will give up her secrets to the clear-headed and to those who are scientifically honest. Science will never be satisfied until there are no more problems in science. The time is coming when the laboratory for original investigation will be mentioned only among the important events of history. The time is coming when the microscope will have given place to the *x*-ray and the latter, or some modification of it, will be the "all-seeing eye" spoken of by the prophets of old. More than this, it will be in common use by every one the world over.

Man will never be satisfied until he can enter the forest and reverse the process of growth. "Until he can stand by the mighty oak and see it recede until it becomes again but the acorn from which it sprang." The farthermost limits of the unknown are to be as familiar as the making of bread, "as well known, indeed, as the harmonies which we call music." When this time comes there will be no more any problems which we can designate as medicine of the future. In that time every problem in anatomy will have been settled, and this will be true of every problem in physiology, in pathology, in bacteriology, in diagnosis and in diseases of the nervous system. In that day cancer will be known only from the description handed down as ancient literature from the text-books of our day. Tuberculosis, typhoid and scarlet fever, and all the rest of the awful lot will be known as the ignorance of the ancients. In that day there will be no further problems either scientific or social. Man will have ceased, in that day, to allow all the breeding for the race to come from below. When that time comes we will have in increasing ratio the brains necessary to delve into the problems that confront us. The world has never tried to breed brains. The lower stratas of society have always furnished us the brawn, but only occasionally a brain of the first quality. When the real upper classes give us the products of real blooded heredity and continue doing it, then we will have finally a world of human beings whose normal state will be an exalted ecstacy, and they will treat the problems that confront them as the child of to-day unwinds riddles. Give us a brain that has been born right for generations, multiply this by a world of brains that have received the same treatment—will you dare to place a limit on what these multiplied, born-right brains can do? Physiologists tell us that within the skull of every human being there are more cells for thought than there are people on this globe of ours. If this is true, how pitifully lazy the most of us have proven ourselves to be. Think of the myriads of brain cells that have never received an impression or given out a thought. In the future time some one is going to show us a method by which every brain can be taught to think. No one ever has shown us, science again awaits a man.

In the future we will not need to compress our vision when we contemplate the possibilities of science. To-day we have got to compress our visions within our own purview. If we do not, we will be in danger of becoming "satiated to a point where individual initiative will be lessened and thought become a mere aimless wandering among facts that no longer stimulate." Few of us appreciate that the throne of thought is within the dome of our own skulls. Close proximity and familiarity has bred a withering, blighting disrespect which has kept us close to the border where ignorance has its domain. The physiology of the future will teach the children of men the possibilities along the lines of mental discipline, and they will then see with the eyes of the prophet the new heaven and the new earth promised to those who think.

If sugar can be made artificially, why not antitoxin? If antitoxin can be drawn from the blood of the horse, why can it not be obtained from the sap of some vegetable? If the *x*-ray can see a foreign body in

living tissue, why can it not be made to see a foreign foe in the form of a micro-organism in the blood or bone of man? If the spectroscope can analyze the gases in the sun and stars, is it unreasonable to assume that the toxins of the blood will yet be determined by some equally efficient instrument? If the heat of a common candle can be registered by the bolometer of Professor Langley at a distance of one and a half miles, what will prevent the final determination by man of any of the problems that confront him?

In the medicine of the future some one will write a text-book of medicine that will remain the standard for generations. Centuries ago Euclid did this for mathematics when he wrote his book on the elements of geometry, a book still in use in our public schools, and with only slight changes. Medicine of all sciences is the most fortunate in that it is attracting to its aid in the furtherance of its ambitions more of the sister professions than any other. Among those to be mentioned first are the civil engineers of the world. No profession or class of men have done more to bring the practical work of physicians to a beneficent solution for the prevention of disease than have the members of this great profession. Almost as much can be said of the law. The strength shown by the legal profession is mainly due to their mutual coöperation in making the laws. The medical profession has much to be thankful for in that the altruism of our motives in striving to rid the world of disease and to prolong life has been recognized by lawyers and no especially hindering legislation has been placed in the way of this. When the great day of the future medicine arrives, when the physician scientist has solved all problems, when the human heart no more tires because the hardening of the arteries which brings on the changes we now call old age is prevented, when the things that wear out the human body are removed, when the marvelous self-repairing powers of the human machine are encouraged so that the span of life can be prolonged indefinitely at the will of its possessor, and when finally the human brain having encompassed all knowledge and experienced all that the physical and mental world has ever offered or ever will offer, voluntarily lies down and willingly reverses the process of life until, Alice in Wonderland like, he is lost in the primitive germ from which he sprang, when this time comes, as come it will, medicine will enter upon the second stage of its existence in the future. Not only this, but this will be the final stage of the world in every line of endeavor, because science is to be the future and final God of this world and we are its children.

Medicine of the future can promise all this and more only because the doctor of the past has made possible what the future is to bring the world. In this country and in our day the physician is not being recognized except as an individual by his own community. When he leaves that community and journeys in company with his fellows to the halls of legislation to urge upon those over us in authority to give us laws that have for their only purpose the banishment of disease, he receives scant notice and less courtesy. While he is doing these things, no one recognizes as thoroughly as he that with every success before the legisla-

ture a very appreciable amount of his private income from his professional work will be taken from him.

He pleads that the state build sanitariums for the scientific housing of those of its citizens who are suffering from tuberculosis. He not only pleads with legislatures, but with all who have any influence with them, to bring about this imperatively needed scheme of treatment whereby lives may be saved and sickness prevented. At the same time he knows that for every consumptive person who is isolated he, the doctor, not only loses the income that might be derived from the treatment of that case, but what is of greater moment, the multiplied income that would be derived from all the new cases that would result from the keeping of that first case among his friends and at home in his family.

All that has just been said of tuberculosis can be said, as far as the money income for the individual doctor is concerned, of epilepsy, of smallpox, of pneumonia and all the rest of the blighting lot. Has any one ever heard that the physician as an individual, or in his collective capacity when organized into societies, ever failed to try and suppress these things? Perish the thought; he never has failed and never will. Of all the scandals that have ever touched poor weak humanity in all its parts of human endeavor, there is no record of such an infamous ignominy as this attaching to our profession. I speak of these things thus freely because the time has come when we must change our attitude toward the public. We have wrapped the coat of our own individuality around us, and, with an holier than thou attitude, kept the public from knowing not only what we were doing, but also the motives that are back of our doing. We must advertise that we are giving more time and thought to destroy the need of our profession than any other, and we must back up our statements with the proof. There is no other profession, certainly there is no business, conducted with this as the ultimate object. The public can not believe that the altruism that the above reveals can be true, and, therefore, I repeat, we must advertise the facts regardless of the humiliating conditions which make the advertising necessary.

But in the riot and revel, in the ecstacy and exultation that must come as we marshal future events and compel them to pass as in a vision before our eyes, we must not, we can not forget the physician in the ranks who has made and is making possible all that is beneficent in scientific medicine. We hear of his weaknesses, but we know his strength. He has toiled with the race from the days of barbarism to the present. He has climbed the rocks, he has waded through the mud, he has forded streams, he has pushed through the forests, he has been beaten by the storms of unrelenting Nature in his efforts to succor man. The blackness of the night with its chill and discomfort has not kept him back. The light of the day, whether in heat or cold, in snow or searching wind, has not discouraged him. Whether he himself was frail or rugged, whether more exhausted than the sick that he was called to administer to—this man, this doctor, has been the medium in every age, in every clime and in every country, through whom God has brought to

the service of suffering men all the curative and restorative agencies with which the works of creation abound. He has never been a warrior, but always a teacher. The things that he says to-day are treasured as if inspired by an oracle, and they are repeated among the children of men for generations. He comes before the cradle, and we whisper to him our last message, as to a mother, before we pass on into the Eternal Silence. His brain is the mute repository of our most deliberate secrets, be they the evidence of our weakness, our folly or of our sin. He forgets his own life when the anxious time in the life of another is upon him. He guides us through the labyrinth of symptoms of hostile diseases, he comforts us with his assurance, and we are conscious of his strength as he marshals the forces of his science against the foes of our body and mind. And, finally, when the somber shades of the evening of his life gather about him and he sits down as the dusk deepens, to contemplate what his profession has brought him, we note, as he thus sits in what is now the very outer court of death, that the lines of his face are not those of the money-grabber. He has not made money. But he is satisfied to have labored with the prophets, priests and kings of the earth for the betterment of the race. "He has been a missionary preaching the gospel of redemption from habits which destroy the body." He would rather be what he is with all that is embodied in his professional life than be known as the possessor of more mortgages than any other man in his community. He would rather, as his final day dies out of the sky, be able to realize that he had worn spotless the vestments of his profession; that he had successfully beaten back death even when the odds were against him; that he had banished the pain from the defenseless child; that he had saved the mother to her family, and that he had inspired the men of his race with a respect for science because of his devotion to it. I would rather be the physician who has done these things, and finally go down to the "tongueless silence of the dreamless dust" with the unstinted praise of those who knew but vaguely even, what I had really done for them, than to have received the plaudits of the world after having spilled the blood of its citizens in cruel and devastating war.

Clothed with character, robed in the mantle of ceaseless toil for the sick, underpaid, often unappreciated, frequently legislated against, carrying the rod of science with an altruism that knows no limits—the physician of to-day, of yesterday and of to-morrow "is only among his peers when in the company of the earth's most exalted."

> "Ὀβλος βραχυ—life is but a song;
> Ἡ τέμνη μακρη—art is wondrous long;
> Yet to the wise her paths are ever fair,
> And Patience smiles, though Genius may despair.
> Give us but knowledge, though by slow degrees,
> And blend our toil with moments bright as these;
> Let Friendship's accents cheer our doubtful way,
> And Love's pure planet lend its guiding ray,
> Our tardy Art shall wear an angel's wings,
> And Life shall lengthen with the joy it brings."

THE RELATION OF TONSILLITIS TO RHEUMATISM.*

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One of the first references that I find to the relation of these two diseases was by Desmos about forty years ago. He stated that the poison of rheumatism occasionally favored the production of inflammation of the tonsils. The late Sir Morell McKenzie in 1880 endorsed this statement, and some other authors since that time have accepted this view, but the majority of those writing upon diseases of the throat have not mentioned any connection between the two diseases. I was one of those who several years ago accepted the theory that rheumatism was a frequent cause of tonsillitis, and I have seen some well-marked cases that tended to confirm that belief, yet during the past few years I have unconsciously drifted into the opinion that the relation was only exceptional. In 1901 F. De Haviland Hall and Herbert Tilley wrote: "It is now almost universally agreed that there is an intimate connection between tonsillitis and acute rheumatism." It must be conceded that inflammation of the tonsils and acute rheumatism are sometimes associated and that the same causes occasionally seem to excite the two affections. Some authors go so far as to claim that the rheumatic poison, whatever it may be, practically always enters through the tonsils. Dr. O. T. Freer, who examined the recent literature for me, has found a number of references to this subject, the most important of which are as follows:

In 1900 Woloshinsky (*St. Petersburger Wochenschrift,* No. 32) reported a house epidemic of nine cases of lacunar tonsillitis, immediately following which three of the patients acquired rheumatism. He regarded polyarthritis as secondary to inflammation of the tonsils, which he thought was produced by pyogenic germs. Frederick A. Packard, writing in the *Philadelphia Medical Journal,* April 28, 1900, states that during the course of an angina or following it the most important complication is acute articular rheumatism. He thinks rheumatism an infection due possibly to several varieties of bacteria. The rheumatism also, he thinks, may be caused by absorption of toxins. This appears to me the most common cause. He believes infection frequently occurs through the tonsils, more especially in connection with acute rheumatism.

In 1901 Julius Ullman (*Medical News,* Jan. 26) expressed the view that the normal tonsil is a protection, but that the diseased tonsil is a source of infection, which may be the place of entrance for acute rheumatism, endocarditis and chorea. In the same year St. Clair Thomson (*New York Medical Record,* March 9) states that "Probably from 30 to 80 per cent. of the cases of acute rheumatism are preceded by angina, though the relation of the two affections is not yet clear. The tonsil without visible change may be a source of entrance for infection." An editorial in *The Journal of the American Medical Association,* Jan. 19, of the same year, entitled "The Tonsils as a Portal for Rheumatic Infection," appeared to express the prevailing opinion on this subject at that

* Read before a Joint Meeting of the Chicago Laryngological and Otological Society and the Chicago Medical Society, March 20, 1907.

time. It states "Tonsils seem not only to be able to act as places of entrance for articular rheumatism, but also for myocardial infection." Dr. W. Cheatham in the same year, in an epitome of the subject of rheumatism as a cause and effect in inflammation of the throat, published in the *New York Medical Journal,* expresses similar views.

In the *Münchener Med. Woch.* No. 4, Gürich asserts his belief, founded upon clinical experience, that in many cases articular rheumatism follows chronic desquamative inflammation of the follicles of the tonsils. In supporting this view he mentions a number of patients who for years suffered from numerous relapses of articular rheumatism that did not recur after treatment of the tonsils. In 1905 Rottenbiller (*Orvosok Lapja,* No. 27) mentions twenty-nine cases from his own practice in which polyarthritis followed follicular tonsillitis, and the same year Parmentier (*Le Progrès Médical Belge,* No. 5) reports one case in a child where rheumatism promptly followed the cessation of tonsillitis.

The subject is summed up as follows by Isaac Adler (*The New York Medical Record,* Dec. 9, 1905, and *The New York Medical Journal,* March 31, 1906) who emphasizes the frequency of rheumatic infection through the tonsils: This infection need not appear as a follicular angina with fever, swelling of the tonsils, etc. On the contrary, a severe inflammatory reaction seems to act as a preventive of general infection. He thinks it proven that very virulent bacilli may pass through the tonsils without local changes in them of reactive or inflammatory nature. The thin epithelium of the lacunæ is most often injured, and germs may pass through it and enter the lymphatic vessels. For this reason a slight irritation of the tonsils may be the prelude to a more or less severe rheumatic or septic general infection. The author states that muscular rheumatism most often settles in the muscles of the neck, nape of neck and shoulder and that he is convinced that it has a bacterial source. The acute beginning of these symptoms is nearly always preceded by tonsillitis. He thinks also that the tonsillar source of pneumonia is certain in many cases, and he regards desquamative nephritis, without edema, vomiting or headache or other subjective or objective symptoms except the findings in the urine, as in some way related to tonsillitis. He advises the extirpation of tonsils that show the least sign of disease. The most dangerous tonsils he deems the non-hypertrophied ones, with soft permeable tissue and open communication with the lymph passages, especially where there are epithelial changes in the crypts.

I can find no evidence in support of most of his views, and certainly they do not agree with my personal observation. I had gradually grown to think that there was no intimate relation between tonsillitis and rheumatism, but the request of our secretary that I present a paper on the subject caused me to have an examination made of the records in my office of my private patients. Dr. G. W. Mosher has carefully looked over my case books, and from these records, which include the histories of 1,393 different patients who came to me suffering with acute and chronic tonsillitis, the histories of 100 acute cases have been taken without selec-

tion. An analysis of these seems to give a fair idea of the conditions that would obtain in all. Without selection, excepting as to age and sex, which seem to be determining factors in many cases, we took 100 other control records of patients coming to me with other diseases for the purpose of ascertaining as nearly as might be the frequency of rheumatism not associated with tonsillitis.

Statistics on the etiology of disease are frequently misleading on account of the absence of control cases; for example, if in 100 cases suffering from tonsillitis we should find that there were 50 who had suffered from rheumatism the customary way would be to conclude that rheumatism was the cause of the disease in 50 per cent; whereas if in the 100 control patients, without tonsillitis, we should find that 50 had suffered from rheumatism, it would appear that 50 per cent. of all patients suffer from rheumatism and that, therefore, there is no relation whatever between the angina and the arthritis.

An examination of our histories revealed some other points of interest aside from the question under consideration. For example, nearly all of the patients had indoor occupations and 70 per cent. were males. Interesting figures also appear regarding the ages of the patients affected. Only one was less than 10 years of age and only one was over 50; 7 per cent. were between the ages of 40 and 50; 11 per cent. between 10 and 20; 26 per cent. were from 30 to 40, and 54 per cent. were between the ages of 20 and 30 years.

An analysis regarding the character of the inflammation shows that 48 per cent. were follicular, 35 per cent. parenchymatous, 11 per cent. suppurative and 3 per cent. were ulcerative. In three the character was not stated. In 35 per cent. there had been no previous attacks. In 11 per cent. the patients were subjects of chronic tonsillitis; 9 per cent. had suffered from one or two previous acute attacks, and 45 per cent. had suffered several or many previous attacks. This analysis yields no definite results regarding exciting causes of the disease, although 30 per cent. were attributed to colds.

It was found from this analysis that 45 per cent. of my patients who were suffering with acute tonsillitis were having at the same time, or had had previously, or had immediately following, an attack of acute rheumatism; whereas only 16 per cent. of the control cases had been similarly affected. This would indicate that 29 per cent. of all cases of acute tonsillitis are closely associated with some form of rheumatism, and that in this proportion inflammation of the tonsils appears to be due to the same causes as rheumatism. However, as the term "rheumatism" in this analysis includes muscular rheumatism there is a possibility that in some of these cases the muscular pain may have been due to other causes. Of the 45 per cent. in whom rheumatism and tonsillitis had been in some way associated, 26 had muscular rheumatism and 27 had articular rheumatism, some of these having both varieties of the disease. Some had the rheumatism before the tonsillitis, some at the time, and part following the arthritis, while others had the attack at two or more of these times. This analysis shows that only 5 per cent. had acute rheumatism immediately before the tonsillitis, that during

or immediately following the attack of tonsillitis 8 per cent. had muscular rheumatism, and that 8 per cent. at these times had articular rheumatism. Thus only 13 per cent. showed any very clear association with the latter disease, for what was termed muscular rheumatism was possibly simply the aching due to the angina.

The figures appear to prove that 45 per cent. of all cases of acute tonsillitis are in some way associated with rheumatism; that 29 per cent. have more than an accidental relation, and that at least 13 per cent. are so closely associated with the latter disease as to justify the hypothesis of an identical cause. However, we must admit that they do not disprove a like etiological relation in the other cases.

Gürich, already quoted, believed that the removal of diseased tonsils would, in some cases at least, prevent the return of attacks of rheumatism, and Adler advises the extirpation of tonsils that show the least indication of disease, apparently for the same purpose. In all these cases of acute tonsillitis my records show only 11 per cent. that were affected with chronic disease of these glands; therefore, I can not agree with Adler that all tonsils showing the slightest evidence of disease should be removed; but I do believe that tonsils that frequently become inflamed or enough enlarged to interfere in any way with the normal functions of the throat should be excised or cured.

From this analysis I conclude: First, that I have gradually fallen into error regarding the relation of tonsillitis and rheumatism and that what has appeared to me merely casual is, in fact, due to an identical cause for the two in from 13 per cent. to possibly 29 per cent. of all cases of acute tonsillitis.

Second, 45 per cent. of the cases of tonsillitis have a rheumatic history, but 16 per cent. of other affections of the throat and chest also have a rheumatic history so that not more than 29 per cent. of the cases of acute tonsillitis can fairly be attributed in any way to the rheumatic poison, and more than half of these are very doubtful.

Third, among my patients only 19 per cent. gave a history of previous attacks of articular rheumatism, and 18 per cent. a history of muscular pains that they ascribed to rheumatism.

Fourth, 8 per cent. of the cases of acute tonsillitis were attended by or immediately followed by articular rheumatism; the same number claimed to have had muscular rheumatism, while in 5 per cent. the rheumatic attack immediately preceded the angina.

Fifth, there is not, as yet, sufficient evidence to prove that the tonsil is the only or even the chief portal of entrance for the rheumatic poison. Considering, however, that in all probability acute articular rheumatism represents a mild type of septic hematogenic infection of the joints, there is no reason why the tonsil with its notorious facility for infection with pyogenic germs should not, possibly even frequently, assume the rôle of an infected wound leading to septic consequences of a systemic nature. These septic conditions vary in degree and location, and rheumatism is perhaps one of the phenomena.

Sixth, the evidence does not yet justify the belief that inflammation of the tonsil may prevent (or take the place of) an attack of rheumatism.

Seventh, the statement that the acute beginning of muscular rheumatism is nearly always preceded by tonsillitis is not supported by the histories of my cases, in only 2 per cent. of which did muscular rheumatism follow tonsillitis. However, in 6 per cent. muscular pains that were called rheumatism attended the tonsillitis, though they may have been due to the fever attending the inflammation of the tonsils.

34 Washington Street.

TUBERCULAR INFECTIONS OF THE FAUCIAL TONSIL.*

CHARLES M. ROBERTSON, M.D.

CHICAGO.

Tubercular infection of the tonsil is of frequent occurrence enough in this locality to command especial attention, as shown in the research of the author. In my report it was found that 8 per cent. of patients presenting for nose and throat symptoms exhibited primary tuberculosis of the faucial tonsil. It was further found that a large number of these patients exhibited lung tuberculosis as a direct infection from this gland through the lymphatic chains. The tonsil may become tuberculous in one of three ways.

First.—By infection from the presence of tubercular material in or about the tonsil from inoculation by the air, or from the food introduced into the mouth coming in contact with the tonsillar gland.

Second.—From blood infection, the original infection being introduced into the lung or intestinal tract.

Third.—From inoculation by sputum coughed up from a tubercular lung producing an inoculation on the surface membrane of the tonsil.

The first is a primary and the second and third are secondary infections.

The first interests us most, for with proper means we can avoid the occurrence of this disease by ablation of the gland. If we inoculate the tonsil with strong tubercular cultures we are able to produce this affection of the gland. We are aware that it is harder for an inoculation to take place on the surface membrane of the gland than in the crypt because of the thickness of the covering of the tonsil by squamous epithelium. The lining membrane of the crypts is much thinner, therefore a more favorable site for the infection to take place. This is borne out by observation.

In caseous tonsils we have crypts filled with cheezy material composed of epithelial cells and mixed substance containing numerous varieties of bacteria. The crypts most constant in filling with such material are those which have some obstruction to the opening. These we find in the upper part of the gland or in the supra-tonsillar fossa. This occurs constantly or at intervals and, the crypt being filled with material, is squeezed between the anterior and posterior pillars and the superior constrictor muscle of the pharynx at each act of swallowing. If the

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* Read before the Joint Meeting of the Chicago Medical Society and Chicago Laryngological Society, March 21, 1907.

opening of the crypt is occluded or pressed upon, the material is pushed deeper into the crypt or out into the supra-tonsillar space along the line of least resistance. In this way the crypt extends deeper and becomes larger in size, so it is common to find them extending to the extreme periphery of the gland as far as the capsule. Here this material lies and decomposes, forming an auto-infection which occurs most frequently in the depth of the crypt. The lymph bodies then take up the tubercular infection. In examining hundreds of tonsil specimens it was found that solitary lymph bodies broke down with epithelioid degeneration and showed the presence of tubercular giant cells. The infection is taken up readily by the lymphatic glands, as was shown by tubercular infection of the cervical lymphatics before the infection in the tonsil had affected more than two or three lymph bodies surrounding the crypt. The tubercular change was never found to extend from one crypt to another. The lymphatic nodes infected from a crypt was limited to one trabecular area.

Infections other than tubercle are found and there is no rule by which the virulency of the infection could be gauged. Thus we may have an infection occurring over a long period of time, the lymphatics passing the infection to the blood without much enlargement of lymphatics. On the other hand, we may have an infection coming on suddenly and in greater quantity, which may produce a large amount of swelling of the lymphatics and still not much of the infection reach the general system. This is brought about by the destructive properties of the lymphatics to infective material. Often the infection thus introduced is explosive but not serious. In these cases the lymphatics in the neck become large, but disappear after the infecting bacteria are destroyed by phagocytosis in the glands affected.

The scope of this paper was not to extend beyond the tonsil, and in order to show the process of infection of the gland it is necessary to consider the process of entrance of infection, first into the crypt and then from the crypt into the tissue surrounding the same. The tonsil is a lymphatic gland lying in the tonsillar fossa. It does not usually occupy the entire space, there being a fossa above the tonsil called the supra-tonsillar space. This supra-tonsillar space varies in size according to the size of the gland. It is usually found as a conical or triangular cavity with the apex outward. It is bounded in front by the anterior pillar, behind by the posterior pillar, above by the junction of the two pillars, while the floor is formed by the top of the tonsil. Into this space empty the superior crypts of the tonsil. They vary in number, but four crypts are almost constant. They empty their contents into the supra-tonsillar fossa which communicates with the pharynx.

Very often the edge of the anterior pillar, which in fetal life extends backward more or less completely covering the tonsil, is persistent, and when so is known as the plica tonsillaris. This membrane varies greatly in its extent and likewise in its consistence. At times it is thin and web-like, while at other times it is a tough and thickened membrane which may or may not be attached to the gland itself or to the pillar behind. The presence of this membrane has much to do with the re-

tention of secretion in the supra-tonsillar fossa, and when it becomes swollen and indurated it can cause a complete closure of the supra-tonsillar space. This is especially true when the tonsil has hypertrophied in an upward direction.

It is common to observe tonsils which are so hypertrophied as to destroy this supra-tonsillar space by the extension of the tonsil upward and outward into the tissue of the soft palate. I have often observed tonsils which extended as far as the under surface of the Eustachian tube. Thus it will be understood that material in the crypts of the top of the tonsil, when squeezed by the action of the anterior and posterior pillars and the superior constrictor muscle of the pharynx, will find resistance at the mouth of the crypt and as a result of which the material will be pushed deeper into the crypt.

We, therefore, find these crypts extending to the external wall or capsule of the gland and filled with caseous material. This does not hold true of the crypts emptying directly into the throat from the fact that there is nothing to cover the openings of these and, too, because they empty downward and inward. When the patient swallows they are squeezed and the material contained in them is emptied into the throat. If, then, we have the superior crypts, or the four which empty into the supra-tonsillar fossa which were called by the author[1] *"the infecting crypts of the tonsils,"* filled with caseous material which cannot escape, we have the focus for an infection. The lining membrane of the crypts becomes infected first in the deepest part, and we find the lymph nodes breaking down in this space. The infection as seen in the sections is less and less marked as you proceed from the deepest part of the crypt toward its opening.

I have seen no specimen where the infection from one trabecular area has affected a trabecular area adjoining. From these lymph nodes which break down into true tubercular areas showing the epithelioid tissue with giant cells, the infection is carried to the sub-maxillary gland first and from this gland to other glands of the cervical chain of lymphatics.

1. "Certain Facts Concerning Faucial Tonsils." JOURNAL A. M. A., Nov. 24, 1906, p. 1725.

House Bill No. 318, to place an osteopath on the State Board of Health, failed of passage in the house May 2. Another bill was designed to establish a standard for medical and osteopathic schools, to license osteopaths without examination, and confer on them "all the rights and privileges which physicians in the state now have." The State Board of Health was characterized as "an arrogant and arbitrary body having absolute power over the standards of medical schools." The bill met with the fate of several osteopathic bills introduced in the Illinois General Assembly since 1897.

THE TECHNIQUE EMPLOYED AND THE RESULTS OBTAINED IN A CASE OF ACNE VARIOLIFORMIS BY THE WRIGHT VACCINATION METHOD.*

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AND

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REPORT OF CASE WITH OBSERVATIONS BY DR. EDWARD H. OCHSNER.

This patient, a young lady, 22 years of age, came under my care Nov. 2, 1906. Her family history is good. Personal history: has always been well, except that since her fourteenth year her chest, back, shoulders and outer aspect of arms have been densely studded with papules and comedones. There was no tendency to pustule formation, and about a year ago the disease had reached its maximum, when the face became involved. As the condition of the face became worse, the eruptions on the rest of the body gradually faded away.

The eruption on her face began as a small papule on the middle of the forehead in October, 1905. Patient scratched this with her finger nail, and a few days later a small pustule resulted which eventually dried up, leaving a crust. Two weeks later another papule appeared over right eyebrow and ran a similar course. These papules did not disappear entirely, but left a discolored area of thickened, indurated, slightly elevated skin. The following week the nose became reddened, swollen and indurated, but no papules developed. In July, 1906, pea- and bean-sized papular lesions developed on chin. These terminated in pustules, and the intervening skin assumed a dull crimson hue. In August, 1906, isolated papules and pustules appeared on middle of right cheek and later in front of left ear new papules and pustules began to crop out until the whole face was buried under these eruptions.

There were no subjective symptoms until about Oct. 1, 1906, after which time patient experienced a tingling sensation at the point where the pustules were about to appear. Face now became swollen, itchy and at times painful, and it would hurt her to smile, laugh or chew food, because the skin felt as if overstretched. There would be a slight exacerbation just prior to the menstrual period, followed by a slight remission.

The treatment which she had obtained, including dieting, seemed not to affect the condition in any way. Condition on admission, Nov. 2, 1906: Whole face has a violaceous discoloration, in some places dull, in others glistening, greasy. If patient sits in sun a few moments, small drops of oil appear on the face. Surface is uneven, because of the large and small papules, nodules, pustules and irregular projecting indurated

*Read before the Chicago Medical Society, March 27, 1907.

masses of skin. These lesions are irregularly distributed over the entire face. The grayish-white pustules project high above the dull crimson background and are plainly visible at a considerable distance. The chin and nose have the greatest number of pustules. The induration on the cheeks is the most pronounced. In a few places the skin appears to be fully three-fourths of an inch thick, and upon opening a pustule over one of these greatly swollen areas fully a dram of thick, creamy pus was expressed. In numerous other places from ten to thirty minims were obtained, showing the presence of numerous subcutaneous abscesses. The eruption is quite strictly limited to the face and there is a fair line of demarcation between the diseased and healthy skin. The hair line limits

Figure 1.

the disease above, and this line continued extends down in front of the ears and follows the ramus, angle and lower border of the inferior maxillary bone to the chin. The surface temperature of the face is diminished. Patient complains of nose, hands and feet feeling cold. On puncturing a fairly mature papule a drop of clear, slightly viscid, serum-like fluid escapes. On puncturing a pustule a drop of grayish-white, creamy, purulent fluid escapes. Many of the ruptured pustules are covered with yellowish-brown, oily crusts.

After carefully examining the patient, it seemed to me that this would be an excellent case for the Wright vaccination treatment, first because Wright reports that some of his most gratifying results have occurred in cases of severe acne; second, because it would give us an excellent opportunity to test the correctness of his claims and to observe

the effect of this treatment from day to day because of the exposed location of the lesions, and, finally, because the treatment heretofore employed has at best been very tedious and often almost ineffectual. In view of this fact, I asked my associate, Dr. Abelmann, who has been doing the technical part of this work for me for some time, to attempt the isolation of the infective agent and to make the vaccine. By what methods this has been accomplished and with what results you have heard and seen this evening.

The case has improved very greatly, as is readily seen by comparing the picture taken about four weeks after the treatment was begun, and when she had already improved somewhat, and the present condition, as

Figure 2.

illustrated by the patient herself. The pustules have entirely disappeared, the induration is greatly decreased, and if the present rate of improvement continues for a little while longer she will be entirely well shortly. The case has been one of unusual interest and has taught us many important points about the Wright vaccination treatment.

About fourteen years ago Unna and his assistants discovered a bacillus in comedones and acne pustules. He considered this organism the active agent in the production of acne, but, as he was not able to secure it in pure culture with any regularity, medical men have been unwilling to adopt his views, especially as Sabourand, Hodra and Gilchrist have had the same difficulty in getting pure cultures. Numerous methods were devised for overcoming this difficulty and securing the bacilli in pure

culture. Sabourand and Gilchrist, by their special methods, were more successful in accomplishing this than any of the others.

I think one of the most important things that the study of this case has taught us is the little point in technique which Dr. Abelmann has discovered by which he is able to secure a pure culture of the bacillus practically every time. This is doubly important because on the successful isolation of the particular pathogenic germ, which is the cause of the disease in question, depends very largely the success of the Wright vaccination treatment. It has also made clear to us why there has been so much confusion upon this subject. I believe it is largely because this bacteria assumes such different sizes, shapes and characteristics depending upon its age and the culture media upon which it has been grown. Among other things, its spore formation at certain stages of its development is apt to confuse the observer greatly. In this connection I should again like to call attention to the observation made by Dr. Abelmann, that the spores are extremely resistant to heat and some chemical germicides, and also to direct your attention again to the method which he has employed to get sterile vaccine without destroying its potency by too frequent, too prolonged or too vigorous heat sterilization.

The study of this case has again impressed upon me the fact that a mixed infection usually causes a very different clinical picture than is presented by the disease caused by either one of the infective agents acting independently, and I can not agree with Sabourand and the other observers that the cocci do not play any special rôle in this affection. I am led to disagree with them for three reasons: first, because as long as this patient was suffering only from the indurated lesion of the skin the affection was a rather mild one and not until July, 1906, when the mixed infection occurred, did it assume a real serious and disfiguring character; second, because she improved very greatly under the first vaccination made, which was very largely, and sometimes entirely, a staphylococcus vaccine, and, finally, because this position agrees with what we now know about other mixed infections. The medical profession are slowly learning, all too slowly I am sorry to say, that a mixed infection consisting of tuberculosis and a pyogenic micro-organism is usually a very serious affection, immeasurably more serious than either alone and presenting a clinical picture very different from that presented by cases suffering either from a simple tubercular infection or a simple pyogenic infection. We know, for instance, that ordinarily a simple infection with staphylococcus albus or aureus is a rather harmless affair and if properly treated rarely need cause death, while if this becomes secondarily infected with bacillus pyocyaneous, influenza bacillus, coli communis or streptococcus it is usually a very serious matter.

This case has impressed upon me very forcibly the necessity of carefully observing the opsonic index in every case treated by the Wright vaccination method. This is a point that Wright insists upon most emphatically, and I believe that, for the present at least and until we have other means of determining the exact dosage of the vaccine, no case should be treated without careful and repeated determination of the

opsonic index, more especially if the affection is a deep-seated one, so that the effect of the injection upon the diseased process can not be carefully watched and controlled.

In this case we gave an overdose of the vaccine three times. The first time this occurred the temperature rose slightly, but only one-tenth of a degree higher than it had been before the treatment was instituted. The second time the temperature did not go above 99.3. Each time there was some disturbance at the point of injection, but only slightly more pronounced than at other times when the dose was not excessive, showing that the temperature, pulse rate and local reaction at the point of vaccination are not sufficient guides to the size of the dose and to the frequency with which vaccination should be repeated. Each time when the dose was excessive the process immediately became worse, and had it not been on a visible portion of the body we would have had no knowledge of the fact that we had given an overdose had we not had the opsonic index to guide us. Each time the opsonic index dropped markedly, and I am sure that had we repeated these same large doses several times in quick succession serious damage would have resulted.

I, for one, am not willing to use the Wright vaccination treatment without the opsonic control and, for the present at least, am compelled to condemn such use unhesitatingly, because, so far as I know, there is no other way of telling whether the dose employed is going to be beneficial or harmful, and, above all things, we should be extremely cautious not to do anything which can be of serious harm to the patient and which may bring discredit upon this new and valuable therapeutic method.

THE TECHNIQUE EMPLOYED AND DESCRIPTION OF INFECTIVE AGENT BY DR. H. W. ABELMANN.

Opsonism, the great light-throwing element on the question of immunity, is a subject of paramount interest in modern medicine. A brief review of the technique and paraphernalia employed in carrying out this work in this particular case will be of benefit.

THE TAKING OF OPSONIC INDEX.

One vol. of serum, one vol. of washed W. B. C. and one vol. of bacterial suspension thoroughly mixed and incubated for fifteen minutes at 37 C. will, on an average, we will say, show the capacity for one W. B. C. to ingest ten microbes in a normal group of individuals, where, on the other hand, the patient's blood subjected to identical procedures will present a lowered capacity, ingesting, say, five germs. The opsonic index of the patient would be .5. The blood is best obtained from finger or ear. The serum is obtained by allowing the blood to flow in a narrow calibered, short, U-shaped tube. It is then set aside to coagulate and later subjected to centrifugalization. The serum can now be withdrawn from both arms by means of capillary tubes. Sera of four or five individuals is necessary. The opsonic index varies both for staphylococcus and the bacillus.

The washed leucocytes are obtained by collecting about ten drops of blood into a small test tube in which we have a 1.5 per cent. sodium citrate solution in .85 sodium chlorid. This prevents the blood from coagulating, and when blood is centrifuged the erythrocytes will sediment first by virtue of their greater specific gravity and form a distinct red stratum. The leucocytes will form a thin scum, known as the cream, on top of the red layer. The clear supernatant fluid contains, besides the citrate solution, the blood serum. This fluid is pipetted off and is replaced by NaCl solution. The tube is shaken and again centrifuged and the same phenomena is recapitulated, giving us our layer of red cells and white cells. The white cells can now be taken up by a capillary pipette as washed leucocytes.

Bacterial Suspension.—A loop full of a twenty-four-hour culture is well stirred up in normal salt solution. If clumps persist same is centrifuged. The resultant opalescent fluid constitutes the bacterial emulsion. It should be made of moderate thickness. A scale of opalescence by which to judge the thickness can be made by having a series of tubes of a $BaSO_4$ solution of different concentrations.

Opsonizing pipettes are readily made from suitable calibered glass tubing heated in flame and drawn out to capillary dimensions of desired length. Incubator is kept at 37° C. Film preparations—smears—are made on glass slides and dried at ordinary room temperature. Staining is conveniently done with Wright's polychrome, which fixes and stains synchronously.

Microscopical Examination.—The bacteria in fifty typical polymorphonuclear neutrophiles are enumerated and the average for one cell taken.

PREPARATION OF VACCINE.

Staphylococcus Vaccine.—Slant agar is inoculated from pus obtained from small whitish pustules. When growth is plentiful a small amount of normal NaCl solution is poured over some, the adherent portions are scraped off with platinum loop. An emulsion of bacteria is produced which is thoroughly agitated, then centrifugalized for one-half minute to get rid of clumps. The supernatant, opalescent fluid is pipetted off, the number of germs in the emulsion is estimated by comparing with R. B. C., so that one c.c. contains approximately 600,000,000 germs. The emulsion is then shaken up in 1 c.c. sterile spindles, both ends of which are sealed in flame. They are then deposited in water bath at 60° C. for 45 minutes. Culture media is inoculated to test sterility of vaccine prepared.

BACILLUS VACCINE.

Considerable difficulty was experienced in the preparation of this vaccine owing to the great resistance offered by the spores. The heat and time required to kill off the spores, even resorting to fractional sterilization, would destroy the chemical nature of the desired toxin, rendering vaccine incompatible for therapeutic use. This difficulty, however, was readily overcome when the phenomena of non-spore formation was observed in cultures that were grown at a temperature below 20° C., which

fact was immediately taken advantage of. Aside from this deviation in the preparation of the specific vaccine, the technique remains the same as for staphylococcus vaccine. In sterilizing this vaccine, subject it to water bath at 65° C. for forty-five minutes. Each c.c. contains approximately 400,000,000 germs.

Dosage.—Average dose of staphylococcus vaccine 300,000,000, given about once a week. Average dose of bacillus vaccine 200,000,000, given about once a week. Dose should be regulated by opsonic index. It is difficult to determine optimum dose and regulate frequency of same. Too large doses or doses administered too frequently will unduly prolong the negative phase, favor multiplication of bacteria and aggravation of local conditions. The subsequent accumulation of the index in the direction of positive phase will require considerable time to regain its former level. It is always best to begin with a small dose and work up.

CASE DESCRIPTION.

To get our bearings you will now have a brief description of the lesions of this interesting case of acne pustulosa, deeming it essential in the first place to show undoubted proof, from the bacteriological research carried out, of the etiology, being an exciting parasitic factor, active in the production of typical acne pathology and, secondly, for affording a clearer insight to the subsequent technique in obtaining the specific germ and the new phenomenal craze of opsono-therapy.

Patient entered hospital, face completely buried in acne lesions, countenance puffed and swollen, numerous, various sized, irregularly shaped nodules deck her brow, cheek, chin and nose. The dark, corrugated, reddish-brown, violaceous front on which are pitched little tents of whitish pustules densely situated, the large and small fluctuant subcutaneous abscesses rupturing spontaneously and the resulting communicating sinuses, which can be traced for some distance beneath the skin, discharging a purulent, at times a serous, fluid, desiccating *in situ* or trickling down the face, accumulating and forming yellow-gray crusts adhering with moderate tenacity, all contributing their share to complete disfigurement.

From this grave field of pathology we set out to cultivate and isolate the micro-organism from the various lesions.

First.—Smears from the small whitish pustules stained with Löffler's methylene-blue presents numerous pus cells with isolated scattered cocci. Bacilli rarely found and could never be cultivated.

Second.—Smears from subcutaneous abscesses show bacilli with moderate frequency and cocci less numerous. There was no difficulty in obtaining cultures of staph. albus and aureus and bacilli rarely thrived on culture media.

Third.—The dark-red nodules, new outcrops of which would occur over night, as an acute exacerbation of silent nodules, becoming acutely inflamed, slightly tender and painful, elevated and indurated, bleeding readily and freely on puncture, would after a day or two become less tense. The nodule, being softer in consistency, would elicit a sense of

pseudofluctuation, the subjective and objective symptoms coincidently ameliorating. At this time, when the nodule is maturing, a sterile aspirating or hypodermic needle is taken in hand after the lesion and adjacent skin have been thoroughly sponged with 95 per cent. alcohol to remove all grease and oil, is introduced at the periphery at base of nodule, directing its course to its centrum. The piston is then withdrawn and pus will follow. When smears are prepared and examined from pus of this source, numerous bacilli and pus cells are seen, no cocci, and cultivation reveals within twenty-four hours a pure culture of bacilli. To obtain this parasitic organism subsequently to be described, the above procedure is absolutely essential for obtaining pure and active cultures.

Previous investigators have experienced much difficulty in obtaining the growth of the organism from nodules on ordinary culture media, difficulty in isolating and obtaining pure cultures of the bacillus. But when observing the above in technic there will be invariably gratifying results.

MORPHOLOGY OF BACILLUS VARIES.

First.—Varies as to source, whether they are found in an active or in a silent nodule or comedone.

Second.—It varies as to alteration in environment during cultivation.

A. Bacillus from active nodules may be demonstrated microscopically in pus by slide preparation made in the usual way and presents the following morphological appearance: Bacillus is 2 to 5 μ in length and .5 thick, usually straight cyclindrical cells with rounded ends, stains readily with ordinary aniline dyes. The organism at times resembles very closely in morphology and staining reaction the colon bacillus and also approaches it in its biological peculiarities.

B. Bacillus found in the initial stage of an acute exacerbation of a silent nodule, which is aroused into activity within twelve hours manifest by pain, tenderness, hyperemia and swelling of the nodule, will exhibit atypical forms of this organism. This germ, having been lying dormant in the tissues, clothed in its silent robes, awakens to new life and activity wearing the colors of a vegetative germ and, although appearing few in number, small and atrophic amidst the colonies of spores and irregular forms, they increase in number and size until, on the second day or later, few of these forms are found, all having enlisted as active germs to battle with our opsonic index.

Cultures exposed to environmental changes frequently show plasmolytic vacuolation—show great variability in staining of different parts of the bacillary protoplasm.

A. Spores.—Under certain circumstances endogenous sporulation occurs. There are glistening oval areas with high indices of refraction appearing usually in the center of the bacterial cell, gradually increasing in size pursues the retreating protoplasm, which finally loses its staining capacity and ultimately disappears. Spores then lie free. Möller's method of staining spores gives us a beautiful picture of free and encapsulated forms colored red, while vegetative cell stains blue. The spores show a great capacity of resistance to heat and chemicals. Immersed in abso-

lute alcohol for four days does not devitalize them. They resist action of 5 per cent. carbolic for ten hours at 37° C. Growth on culture media impregnated with sulphur is considerably retarded. Spore formation does not occur below 20° C. Spores are non-motile.

B. Long thread-like filamentous forms of considerable length, without apparent segmentation, are frequently observed. Again we find forms which may be termed:

C. Involuted Forms.—The individual bacilli having undergone pathological changes and experienced a degeneration of its protoplasm with coincident distortion of its outlines, at times presenting branching forms.

D. Motility.—The bacillus is actively motile. A hanging drop shows organism passing quickly across the field, at times exhibiting a rapid, darting, sometimes a rotatory, motion. The filamentous forms often have an undulating or serpentine motion. Bacilli from old cultures, from silent nodules or comedones are less active, approaching the Brownian movement. Spores are non-motile.

E. When stained by Löffler's mordant method bacillus seems to possess very delicate locomotive organs. It is a flagellated organism of the peritrichic type, flagellæ being attached all along the sides and ends. There are about 14 to 20 in number, are shorter than those of typhoid bacilli and are quite wavy.

F. Bacillus does not decolorize by Gram.

G. Agglutination Test.—Agglutination was noticed in dilutions of 1-50 and 1-100. No agglutination was shown in blood from normal patients.

CULTURAL PECULIARITIES.

First, stroke culture on inclined agar presents in 48 hours a luxuriant whitish-gray growth, it has a tendency to spread over surface and has a moist, creamy appearance. Second, bouillon, 24-hour growth, shows a uniform turbidity with formation of sediment. Third, gelatin is not liquefied. Fourth, glucose agar shows no gas formation. Fifth, litmus milk shows, on second and fourth day, coagulation of casein which sedimentates, leaving a clear, supernatant, straw-colored fluid, slightly alkaline in reaction. Sixth, potato gives a dirty gray, moist, viscid-looking layer which has a tendency to spread. Seventh, bacillus also cultivated on blood serum and glycerin agar. Eighth, Durham's peptone solution gives no production of indol.

PATHOGENESIS.

The organism is pathogenic to mice and guinea-pigs. Intra-peritoneal inoculation of 3 minims of forty-eight-hour growth on agar (taking organisms that have been growing in water of condensation) kills white mouse in less than ten hours, and six minims taken from the same source kills guinea-pig in less than ten hours. At autopsy a large accumulation of clear peritoneal exudate presents in abdominal cavity, bowels distended with gas, peritonitis not present. The virulence as tested upon these animals was manifest in a comparatively short time

and the effects can be attributed to the toxic rather than the infective properties of the culture used.

Intravenous and intraperitoneal inoculation of an attenuated emulsion of bacteria in .85 salt solution into mouse and pigs. Mouse at end of second week ceases to be playful, looks sickly and dies ultimately of an apparently chronic form of infection. Autopsy reveals no macroscopical change except for a dark-purplish discoloration of the intestines. Pure cultures of the bacillus were obtained on agar slants from the peritoneal, pleural and pericardiac sacs, respectively. The pigs that received inoculation are still alive and apparently in good health, twenty-six days after inoculation.

THERAPY.

We have now lightly covered the ground as to technique involved in carrying out our work, pictured to you the pathology of this case of acne pustulosa and dwelt on the morphology and significance of a specific microbe. Now we are in a position to sidetrack your attention for a moment on the subject of opsonin in relation to these micro-organisms and to establish a working basis on which to build and apply our knowledge of opsono-therapy.

When we apply these bacteria to the opsonic test, we find that the bacilli, as well as the cocci, are subject to phagocytosis and bear a distinct relation to the opsonic content of the blood. Patient's blood is capable of destroying less organisms than an apparent healthy group of individuals. The opsonic content of the blood can be raised by repeated injection administration of specific vaccine at periods as registered by the opsonic index. The improvement which follows administration of suitable doses corresponds to the raise in index. The setback which follows an overdose is synchronous to fall in content with an accompanying increase of leucocytosis.

The first vaccine prepared for therapeutic use constituted an emulsion of dead staphylococci with a few accidental bacilli, to which at this time no significance was attached.

THERAPEUTIC RESULTS FROM FIRST VACCINE.

Examination of blood on Nov. 16, 1906, showed an index of .84 and a leucocytosis of 15,000. With the first inoculation of 300,000,000 there is a fall of the index to .55 and an increase of leucocytosis to 18,000. With this fall in content there is a mild aggravation of the condition for a few days, then a distinct improvement ensues. Face appears less swollen, feels less tense, inflammation is less marked, pustules although fairly numerous do not reach the stage of maturity as formerly and clear up in a shorter time. Blood examination on November 21 gives an index of 1.10 and a leucocytosis of 16,000; 600,000,000 is administered. The clinical picture following this dose remained stationary, there was no sign of improvement, nor was there any evidence of the condition becoming worse. On November 30, 900,000,000 was given. Marked local reaction followed. There was a rise in temperature. The next blood examination

gives a low index, .45. There is an increased leucocytosis to 18,500. Following this large dose the condition promptly grew worse, so that on about the fourth day after inoculation the retrograde changes had reached a point where the description of the condition was identical with that pictured on patient's admission to hospital. The disease progresses, many papules are transformed into massive nodules, pustules converted into abscesses. Inflammation reaches its climax and the face is trickling with pus. There are new outcrops of pustules and nodules on the neck, a fresh eruption of pimples on back, shoulders and arms. The index remains low for a week, then gradually rises and with it the inflammatory condition slowly subsides. On December 13 the index reads 1.02, leucocytosis falls to 15,000. Pustules have decreased in number. Face is becoming clearer.

Opsonic index of serum which exudes from a punctured nodule or pustule reads .98, while index of blood taken from finger reads 1.12. This shows that the opsonin has been taken up by the bacteria and con-

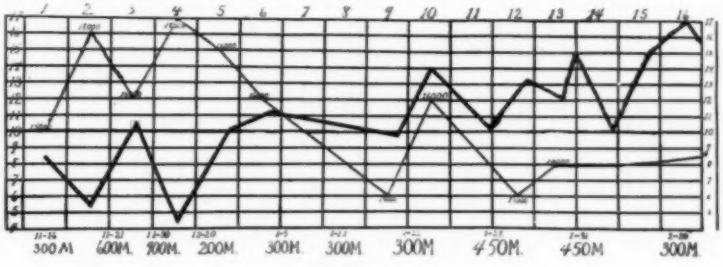

Figure 3.

stitutes a region of low bacterio-tropic pressure. But we will note that this low index reads higher than index of blood serum obtained from finger at patient's admission to hospital.

On December 20, 200,000,000 was given. The following two weeks index floats above normal line, conditions slowly improving, leucocytosis of 13,000. On January 5, 300,000,000, and on January 11 same dose repeated. Index running as high as 1.5. The dosing on January 28, 300,000,000, and January 31, 450,000,000, follow each other at short intervals and there is a consequent fall in index to 1.01 on February 9, with coincident new pustule formation and an exacerbation of local manifestations.

Second vaccine constitutes an emulsion of dead staphylococcus aureus. Results—February 20, 300,000,000 is given. Four days later index reaches 1.4, and on the 27th its highest point, 1.6. Since this time index fluctuates between 1.4 and normal. The pustules greatly decreased in number the following week, and the next two weeks no pustules appeared, except an occasional one springing up here and there. Face has remarkably improved, there are areas of clear skin appearing. Inflammation had all subsided, except for reddish indurated nodules persisting, coming and going; leucocytosis remains high, 13,500.

Third Vaccine.—Bacillus vaccine constitutes an emulsion of the bacil-

lus. It was not until after several weeks of experimentation and study and with developing technique that the significance of the bacillus attracted our attention and aroused interest, inviting us to further research. The pus infection having cleared up under vaccine therapy, there still remained to be treated the acne with its red indurated nodules and with its comedones appearing and vanishing, accounting for the remaining leucocytosis of 13,500.

Results on February 24: For the first time the opsonic index for the bacillus was determined and read .4. One hundred million was given. The index on the 27th reached .6, and on the following day patient received an inoculation of 200,000,000. On March 1 index stands at .73, condition constantly improving. It was at this time that patient looked her best. March 5 index read .4. The next day 400,000,000 was administered. Marked local reaction ensues, clearing up after five days. Index

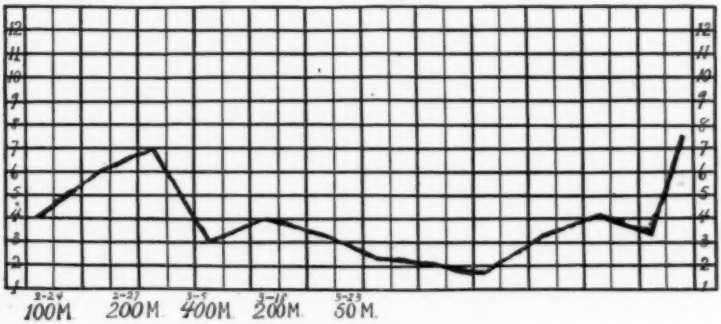

Figure 4.

gradually falls on the 13th, is as low as .17, typical acne nodules spring on face, new ones on back, one nodule appearing on forearm just above wrist, in a region foreign to the usual seat of acne lesions. No pustules ever occur. By the 18th the index is .37, acne lesions vanishing, face again clearing. On the 19th, 100,000,000 is given. Index on 20th reads .35, on the 22d is .77 and on the 26th .802.

The index is now on the incline and immunity well on the way to drive out the invader, and we shall endeavor to accompany it step by step with our opsonic index and come out victorious, with our patient cured in a manner fashioned after the cures of the ablest—*Vis medicatrix naturæ.*

ABORTION.*

H. A. Pattison, M.D.

BENLD, ILL.

When I received notice that I was expected to prepare a paper for this meeting of the Macoupin County Society, I immediately determined to

* Read at the annual meeting of the Macoupin County Medical Society, April 25, 1907.

present the subject of abortion, which, because of my personal observation and the testimony of my fellow-practitioner, I am convinced is of very prevalent occurrence. And because of certain psychical, physical and moral factors I am firmly convinced that this subject is of far-reaching importance to our profession and more particularly to society at large.

Abortion may be defined as the expulsion of the product of conception from the uterus before the fifth month. I shall make only rapid reference to the causes of abortion. They are constitutional, acting through the blood or nervous system of the mother, or fetal or uterine. Among those disorders of the maternal organisms may be mentioned the exanthemata, the presence in the blood of carbonic acid gas and sometimes malarial poison. Chorea generally results in abortion, as does also tetanus. Traumatism and shock frequently bring about abortion. About a year ago I was hurriedly called to see a woman who had fallen from a wagon and struck on the back of her neck and shoulders. She lay quietly on a mattress when I reached her, and was suffering from what seemed to be only a moderate degree of shock. No bones were broken. As reaction set in she became very talkative, then delirious. I returned early the following morning to catheterize the patient. Only two or three ounces of urine could be withdrawn, indicating suspension of kidney activity. Abortion was then in progress, edema of the lungs had set in, the temperature was 107 degrees. The woman died shortly after; that is, about twenty-four hours after the accident. Fright is occasionally a reflex cause of abortion, causing hemorrhage between the fetal and maternal layers of the placenta. Drugs and excessive purgatives are other causes of abortion. Anything which causes death of the fetus, such as syphilis, twisting of the cord or the placental apoplexy already mentioned, will end in abortion. Among the uterine causes are retroflexion, neoplasms and lacerations of the cervix.

There are two classes of abortion—accidental and artificial. The former embraces those cases which take place without the connivance of anyone, and the latter those cases due to interference by some person, either the woman herself, a midwife, or a physician. This latter class may be again divided into two classes—first, those cases which after careful consideration and in consultation with the highest medical authority available, the physician, relying upon his best judgment, deems necessary for the preservation of the woman's life. My first thought was to say "the preservation of life and health." I dare not make the class of cases as broad as that.

It is coming to be questioned most strongly whether the physician has even this right. As I shall emphasize later, the embryo from its very first conception is a living thing, capable of development into a perfect human being, and some thoughtful minds question the right of the physician to decide that the life of the mother is more valuable than the life of the fetus, and upon this decision decree the death of an unborn child. I have not yet reached any personal convictions upon this point, but I believe we shall be compelled to admit that the doctrine of the

Roman Catholic Church, that no form of induced abortion is legitimate, is indisputable from the legal as well as the moral standpoint. But, whatever may be the final word upon the subject, the number of cases of this kind is growing less because the indications for interference are being narrowed down. Improved methods of rectal alimentation and Cesarian section, made so safe by modern surgery, require that the conscientious physician will now consent to the induction of abortion only for certain cases of nephritis and cardiac insufficiency and such neoplasms as would almost surely cause the death of the fetus before certain viability.

The second division of artificial abortions is that class of cases upon which abortion is induced in response to the desire of a woman to escape the sufferings incident to childbirth and the responsibilities and cares of motherhood, or to escape the consequences of indiscretion. It is to this class of criminal abortions that I desire to direct special attention.

The human being at the age of 30 to 50 years has reached his highest point of efficiency in all the varied demands of his complex existence. At this age he is most capable of obeying fully that first law of life, self-preservation. His mind is matured, his judgment keenest, his physical power greatest. He is then best able to ward off all the forces which tend toward death. At 20 his physical strength may be as great, but his judgment does not keep him from placing himself among conditions of physical and moral danger. Each preceding year the individual, as the youth, the child, the infant, is less and less able to care for and protect himself. Yet even as a new-born infant he is capable of crying out in distress, of moving his limbs to ward off approaching danger, real or imaginary.

Finally, the infant as yet unborn, lying in its mother's womb, is absolutely helpless, unable to protect itself, yet having within itself all the potentialities of manhood or womanhood. Lying thus so helpless, it is surrounded by other protection outside itself greater than the protection afforded in its mother's arms. The amniotic membrane and its contained liquid to lessen friction and jarring, the thick, strong uterine walls, the firm pelvic muscles, fasciæ and bones, all unite to safeguard the embryo. Through all this fortification there is but one avenue of assault—the tiny opening into the uterus. Can anything be meaner, more contemptible or more cowardly than to take advantage of this one weak point in the defenses of the helpless infant? Nor can we accept in excuse the belief prevalent among the laity that there is any essential difference in the destruction of the embryo either before or after quickening, either before or after birth. There is scientific foundation for the belief that many, if not all, educated physicians of to-day hold, viz., that a life begins with the impregnation of the ovum and its attachment to the uterine wall.

The eye is not delicately enough adjusted to discern germ life, and only recently has the microscope made the science of bacteriology a possibility, yet during all the centuries the life was there. It is claimed by some philosophers that if our ears were finely enough attuned we could

actually hear the harmonies of the planets. About the middle of the fifth month of gestation the mother experiences the slightest sensation of quivering, the first perceptible sign of life in the embryo. If her nervous organization were finer, the sign would be felt earlier. Might she not even feel and know that cell division in the ovum was in progress? Karyokinesis is a life process, and the impregnated cell, having attached itself to the uterine wall and begun dividing and subdividing, is a living thing with all potentialities of an adult human being. To destroy it is a crime against life and against society.

Let me prove this by a single illustration. Many years ago there lived in a log cabin in Kentucky an obscure family named Lincoln. The mother of this family had many duties and cares. At a certain time she became pregnant. Suppose that for some reason she felt it too much to go through the long period of gestation, the perils of maternity, and the cares of motherhood, and had submitted to an abortion. Abraham Lincoln would never have been born, and that obscure woman would have committed the greatest crime ever perpetrated against this republic. Some writer of the seventeenth century said: "It is a thing deserving all hate and detestation that a man in his very original, while he is framed, while he is enlived, should be put to death under the very hands and in the shop of Nature." An alarming percentage of these criminal abortions occur among our own American women. These women are intelligent, educated. They are kind, thoughtful, unselfish. They will protect a child or an animal. They are never cruel. Yet they will murder or permit to be murdered the child *in utero*. It is because they do not realize the enormity of their wickedness. They must be taught. It is largely through the family physician that this instruction must come. The teaching will often fail to produce immediate results. A single success is worth the required patience.

During the first months of my practice a young woman, recently married, came to me with a request that I terminate a pregnancy. After pointing out the dangers and the moral factors involved, I told her I hoped she would call upon me again in about seven months, when I would gladly help her. I forgot the incident. Some months after, I received a note from a woman in a neighboring town, asking me to attend her in confinement. When I called upon her, her face seemed familiar and I finally recalled her previous visit to my office. I had the satisfaction of delivering a large healthy boy of whom his parents are justly proud.

A young married woman of culture and refinement suggested to me that in all cases of criminal abortion where the fetus is large enough to show the form of the child it should be shown to the mother who permitted the crime. This, my friend believes, would serve to deter the woman from committing the same crime again. There appeared in *The Journal* of the American Medical Association an exceedingly well-written paper on "The Physiologic and Legal Status of the Fetus *in Utero*." The author urges a change of nomenclature, so that we shall say a child is "born" at the time of conception and is "delivered" when it is separated from the mother and begins an independent existence.

Returning now to the general consideration of the subject of abortion, let us note some of the possible complications and sequelæ. The immediate danger is hemorrhage. A little later absorptive fever or septic fever may occur. Inflammatory complications, such as peritonitis, cellulitis, ovaritis and metritis may add their quota to the gravity of the situation. Among other complications which have been known to occur are embolism, tetanus, uterine hydatids and melancholia. The dangers in accidental abortions are slight as compared to criminal abortion. In the former the product of conception is generally thrown off complete. The hemorrhage may be profuse for a short period, but ceases as soon as the uterus empties itself. On the other hand, in criminal abortion, the membranes are usually ruptured and only the fetus expelled, the retained portion remaining a source of great danger.

When called to attend a case of abortion it is necessary to determine whether abortion is threatened or is in progress or has taken place. It often requires nicety of judgment to decide whether effort should be made to prevent or to facilitate the process. The essential symptoms of threatened abortion are hemorrhage, pain in the back and lower abdomen and vomiting. Abortion will sometimes take place with scarcely a symptom beyond a sharp onset of abdominal pain and a few gushes of blood. Generally speaking, no amount of pain or hemorrhage should be taken as evidence that the use of preventive measures is hopeless, but if the os is dilated to admit the finger so you can touch the fetal ball it is useless to waste time with preventive measures. If, however, it is possible to learn that an instrument has been thrust into the uterus and the pains and hemorrhages are a sequel to such interference, it may be pretty safely assumed that abortion is inevitable, whatever the amount of dilation. It is sometimes absolutely necessary to know whether the case in hand is an accidental or artificial abortion. Women will often deceive to the point of death, but adroit questioning and explanation about the possibilities of septicemia will generally bring out the truth. Whether the abortion is accidental or artificial, the physician when called is expected to and should render all services to restore conditions to the normal. Very frequently to the young and not altogether infrequently to the older practitioner the indications for treatment are somewhat hazy. This is because there is such a wide difference of opinion among those whom we expect should know—between those, on the one hand, who believe that the attitude of the attendant should be entirely passive and expectant, and, on the other hand, those who advise active intervention.

If abortion is threatened, the first and most important indication is absolute rest in bed. As abortion often occurs coincidentally with the menstrual period, it may be well in some cases to have the patient remain in bed several days each month. Absolute rest includes a quiet mind and nervous system as well as recumbent position of the body. Light should be excluded from the room. Neighbors and children in the family should be excluded. Bromids and opium may be administered in the dosage the individual case seems to require. If the patient is bleeding freely, a tampon may be carefully applied for twenty-four hours, though

there is danger that it may bring about the very result we are trying to prevent. The application of heat to the spinal column at the junction of the dorsal and lumbar regions is said to be a trustworthy preventive measure. Viburnum prunifolium continues to stand in high favor. I have tried several methods of administration and find that equal parts of the fluid extract with compound elixir of taraxacum is a pleasant combination. One dram of the mixture to be given every three hours.

As regards all local treatment in abortion, I would emphasize, first of all, the necessity of strict antiseptic precautions. The external genitalia and the thighs should be wished with soap and water by the attendant and then with bichlorid of mercury (solution 1 to 2000) or lysol, 1 per cent. solution, by the physician. The vagina should receive the same treatment. Surgical cleanliness of the hands by any approved method and sterilized instruments are imperative if we would avoid danger of septic infection. If the os is fully dilated to the diameter of the fetal ball, a full dose of ergot may be all that is necessary. The uterine contractions will empty the uterus and hemorrhage will cease, provided all of the product of conception is expelled. It is not necessary nor expedient to relieve the pains any more than at full-term labor. If the os is only partially dilated, my method is to pack the cervix firmly with a sterilized bandage. This can be accomplished without rupturing the membranes if force is not used. I then pack the vagina with cotton pledgets, wrung out in 1 to 2 per cent. lysol solution. Thirty minims of ergot are given every three hours. The packing is removed in twenty-four hours, when the os will be found dilated, and often the embryo is found in the packing. If the embryo is still in the uterus, the hand is inserted into the vagina and the index finger passed through the cervix. With the other hand making counter pressure over the abdomen, the uterus is cleared. Many physicians use the well-known St. Cyr spiral curettes. My experience with them is so limited that I can speak neither for nor against their use. I am satisfied, however, that the index finger with its tactile sense is a surer method of clearing away all débris. The gynecologist is urging the very limited practice of curettement by the general practitioner. Surrounded by the "glittering paraphernalia of the modern hospital," he has a wholesome respect for the principles of antisepsis and a fear of the lack of aseptic conditions in homes as well as a fear (not altogther ungrounded) that the country doctor does not pay due regard to such principles. It is also true that the uterus has been punctured with a resultant peritonitis or the prolapse of a loop of intestine, and true that the uterine walls have been scraped too deeply with resultant atresia. But evidence of putrefaction within the uterus or septic infection or continuous hemorrhage certainly indicates the need of immediate curettage. And why should not the family physician perform this operation?

I am indebted to Prof. James B. De Lee for two very simple rules of procedure which make this operation safe. Having anesthetized the patient and taken all steps to secure surgical cleanliness, the cervix is grasped by a volsellum forceps and drawn down and steadied. If not

sufficiently dilated, the Goodell dilator will in a few minutes open the cervical canal enough to pass the curette. This instrument is passed into the uterus until the fundus is reached. A uterine sound may be used first to determine the depth of the cavity. Having reached the fundus, the curette is drawn firmly outward over the membrane, clearing everything in its way. It is again passed back to the fundus and again drawn forward either to the left or right of the first path, and so on until every portion of the uterine wall is scraped. When healthy tissue is reached by the edge of the curette it will be known by the scraping sound made on the firm uterine tissue. Once heard, the sound is unmistakable and indicates that the curette has done all it should do in that region. With these two points in mind, as suggested by Prof. De Lee, viz., always scraping toward the external os (never backward and forward) and always ceasing to scrape when healthy tissue is reached, curettement is a safe operation. The curettement completed, the uterus may be douched with a weak solution of tincture of iodin in water or 1-6000 bichlorid solution, followed by normal saline solution. Ten days in bed and a daily hot vaginal douche are all the after-treatment that is usually required.

I have endeavored to present briefly these facts in connection with the subject of abortion, gleaned from my study, observation and experience. They may or may not contain any new suggestions which will prove helpful. But, however that may be, in conclusion let me make this one plea, viz., that we, as physicians, use all the influence we have in the community in which we live to bring people to a realization of the true seriousness of this hidden crime, and thus to help blot out an all too prevalent and pernicious practice.

AFFECTIONS OF THE EYE IN GASTROINTESTINAL DISORDERS.*

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Professor of Ophthalmology in Northwestern University.

CHICAGO.

The fact that there is no direct connection between the component parts of the ocular apparatus and the various organs and tissues of the alimentary tract probably accounts for the comparative rarity of organic lesions or functional disturbances of the eye produced by derangements of the stomach and bowels. Nevertheless, the indirect or contributive effects of certain digestive disorders upon the eye are not only well known and fairly well defined, but are often of serious moment.

The best instance of ocular disease as a result of stomachic derangement is the production of various forms of amblyopia from chronic gastric catarrh—using the latter term to include a number of different lesions of the stomach walls. Probably this form of dyspepsia is always contributive in character; that is to say, the agent that affects the ocular

* Read before the Chicago Medical Society, April 3, 1907.

apparatus acts only in the presence of a more or less chronic catarrhal gastritis. A well-known example of such a condition is tobacco or alcoholic amblyopia. This disease produces a hyperplasia of the connective elements of the optic nerve—a sort of cirrhosis of the nervous tissues. Pressure is thus brought to bear upon the axis cylinders and incomplete blindness results. So far as we know, this form of amblyopia does not occur unless a chronic gastritis be present. This contention might be carried still farther, and it might be rightly claimed that the lesion of the optic nerve does not improve and the eyesight does not return until the gastrointestinal disorder improves or is cured; indeed, successful treatment of this form of amblyopia is directed not so much to the optic lesion as to the gastrointestinal disease.

The foregoing illustration of what commonly occurs in stomachic diseases that affect the eyes explains another, more serious, although not so common example of ocular infection dependent upon gastric disorders. There is a form of optic nerve atrophy which commonly ends in blindness, despite all treatment. Its causation is often obscure and is not explained by the presence of syphilis, rheumatism, traumatism, cerebral affections, spinal disease or of any of the ordinary causes of optic nerve atrophy. For many years a number of observers have suspected that this form of progressive blindness is occasionally due to the circulation in the blood of certain toxins due to imperfect or vicious metabolism. It was believed that the lesions in the nerve are explained in pretty much the same way that one explains other forms of toxic amblyopia. I mention this matter chiefly to draw your attention to the fact that Dr. Fenton B. Turck's experiments upon dogs probably furnished the first demonstration of the truth of this teaching. He found that the injection into the canine circulation of toxic agents separated from the stomach contents of certain human subjects produces blindness in these lower animals. I was very much interested in this discovery when it was first brought to my attention by Dr. Turck, and, so far as was possible at the time, we endeavored to isolate the complex organic poisons that seemed most likely to bring about the amaurosis. I regret to say that we were unable to isolate them at that time. Later de Schweinitz, of Philadelphia, made a number of experiments in the same direction, and was more fortunate in identifying at least two of these toxins. I feel assured that some time in the future we shall know more about these forms of optic disease of intestinal origin, particularly those toxic forms that are followed by slow but progressive blindness, and will be able to exhibit effective because rational treatment.

A long continued anemia from profuse diarrhea or other intestinal disorders that rob the blood of important constituents commonly affect the optic nerve as well as other parts of the visual organ. Particularly in childhood do we find xerosis of the conjunctiva and cornea, as well as some forms of infectious keratitis, sometimes ending in corneal ulcer and blindness, due to these causes. Sudden blindness with complete atrophy of the optic nerve also occurs now and then, after intestinal bleedings and serious diarrheas. Of course, this may be regarded as a mere

incident, so far as the intestinal tract is concerned, because we know that sudden loss of blood from any portion of the body may bring about a partial or complete amaurosis, a subsequent examination of the ophthalmoscope showing the optic nerve to be white and atrophic. That is to say, not only may hemorrhoidal, intestinal and gastric bleeding (from whatever cause) produce blindness, but extensive loss of blood from the uterus, bladder, nose or any other organ may produce the same result.

If one were to refer to disordered functions of the intestinal tract some or all of the various forms of diabetes, then we have a condition that is particularly fruitful of eye changes. We know that the interference with nutrition of the lens in diabetes is a frequent cause of cataract, not to mention that form of inflammation of the retina and optic nerve that so closely resembles albuminuric retinitis. In addition to these conditions, iritis, iridocyclitis, chorioiditis and changes in the vitreous are also seen as a result of glycosuria in its various forms.

In conclusion, let me draw your attention to a functional disorder of the focussing apparatus—a weakness of accommodation—that may arise in conjunction with almost every form of so-called "indigestion." The patient finds, even with the best glasses he can obtain, that there is a blurring of the print, fatigue of the eyes, headache and all the other sequels of eye-strain. In a proportion of such cases the symptoms disappear only when some one of the numerous forms of dyspepsia has been discovered and successfully treated.

As was long ago pointed out, defects in the extrinsic eye muscles, in other words, deficiencies in the balance of the external eye muscles, disappear, often without further treatment, after accompanying stomachic disorders disappear. I suspect that the efficacy of large or increasing doses of tincture of nux vomica (very commonly and very properly administered as an adjunct to other eye treatment) is mainly due to their action upon the gastrointestinal tract.

METABOLISM AS AFFECTED BY DISORDERS OF THE STOMACH AND INTESTINES.*

RALPH W. WEBSTER, M.D., PH.D.
CHICAGO.

"The members of the body rebelled against the Belly and said, 'Why should we be perpetually engaged in administering to your wants, while you do nothing but take your rest and enjoy yourself in luxury and self-indulgence?' The members carried out their resolve and refused their assistance to the Belly. The whole body quickly became debilitated, and the hands, feet, mouth and eyes, when too late, repented of their folly." (Æsop.)

According to Voit, the unknown causes of metabolism are found in the cells of the organism. If we consider metabolism in a general sense, in contradistinction to special metabolism, to be the sum total of the chemical changes, which materials undergo under the influence of living cells, we readily see that all of the processes which take place within

*Read before Chicago Medical Society, April 3, 1907.

the body from the time food is digested and absorbed until the waste products are ready for excretion are embraced in the term. In my section of this symposium we must necessarily include the general metabolism of food products, as well as their special metabolism under the influence of the body cells, in so far as this latter process is affected by the abnormalities in the functions of the gastrointestinal tract. Likewise I must discuss, in a general way, the abnormalities of the digestive processes themselves.

It may be stated, at the outset, that metabolism, both general and special, may be affected by disturbances in the secretory and motor functions of the stomach and intestines; while abnormal processes of decomposition may lead to certain disorders, chiefly through the influence of absorption of unusual products. Moreover, we find that disturbances in the excretory activity of the bowel often cause marked changes in the normal metabolism of the body. While the disturbances in the stomach affect, directly, the activities of the intestines, and while the effects of abnormal action of the bowels are more marked, as regards the general metabolism, than are those of the stomach, yet we will discuss these various points separately in order to show the dependence of metabolism on each as well as the inter-dependence of one upon the other.

INFLUENCE OF GASTRIC DISORDERS.

1. *Disturbances of Secretory Activity.*—As is well known, the normal euchlorhydria of the gastric juice may be replaced by an anachlorhydria, a hypochlorhydria or a hyperchlorhydria. As a rule parallel changes in the secretion of the specific ferments of the juice are observed, so that usually we have a hypoacidity associated with a hypochylia, an anacidity with an achylia, etc. This is not necessarily constant, as Troller has shown, and may even give way to reverse conditions. In some cases, as is known, the acidity of the juice is normal, but a hypochlorhydria or even an anachlorhydria obtains. It is not my purpose to discuss these points, as far as their development is concerned, but rather to show the influence of such changes on the metabolism, both general and special.

According to Ogata and Filippi, the removal of the stomach has no influence upon the absorption of food or upon the general metabolism. Schlatter and Hofmann report a case of an old woman who showed, after complete extirpation of the stomach, a normal utilization of food and, moreover, gained 4.4 kg. in weight in two months. As a general rule it may be said that anomalies of the secretory activity of the stomach have no influence on general metabolism, providing these disturbances are not complicated by motor disturbances of the stomach or resorptive disorders of the bowel.

It must be remembered that the acidity of the gastric juice is of importance both from the standpoint of digestion and also from that of its influence on the motility of the stomach. The disturbance of digestion has reference, almost exclusively, to the handling of the proteids and may be so great that no digestion at all takes place. In cases of an- or hypoacidity no abnormality in the activity of the digestive

juices of the bowel will be observed beyond the absolute inability of the bowel to digest the connective tissue of raw or of smoked meat. The absorption of digestion products from the stomach being very small, no disturbance of metabolism or of nutrition will result from uncomplicated conditions of this sort. It is a matter of daily observation that patients with absolute achylia and anacidity are usually in a well-nourished condition and remain so, providing no complication of the motor function ensues.

In cases of hyperacidity we find that the utilization of food is normal, provided the food passes into the bowel at normal periods and that the intestinal functions are normal. This former point is of importance because hyperacidity easily causes a cramp of the pylorus and hence prevents the passage of food into the bowel. Hyperacidity may also influence the food intake owing to the loss of appetite in such cases. These patients may show conditions of anemia or of undernourishment as a result rather of the deficient calorie value of the food than of the influence of hyperacidity on the general metabolism.

2. *Disturbances of Motility.*—Of the three forms of motor derangement, vomiting, hyper- and hypo-motility, the first and last forms are the more important, as excessive motility will have no influence on digestion and absorption in the bowel, beyond the point of accumulation of digestive products and a consequent secondary action on the rate of enteric hydrolysis. This condition may lead to slight loss in caloric value by way of the feces, but is not of sufficient importance to warrant a more extensive discussion. It is quite evident that in those conditions, associated with constant vomiting, the food intake is much lessened, at least as far as its utilization is concerned. As a result conditions of under-nutrition easily follow. Such instances are seen in the gastric crises of various diseases, hyperemesis gravidarum, etc.

In those conditions, associated with spasm of the pylorus, whether due to malignant or benign growths, or as a result of pure hyperacidity, the food remains in the stomach an undue length of time. The products of digestion do not pass in sufficient amounts into the bowel and, as the absorption in the stomach is almost *nil*, the food value of the intake is about as great as if food had not been taken. This condition leads to stagnation of food, dilatation of the stomach, resulting in vomiting and complete loss of nourishment, along with a consequent loss in weight, which is slow in developing but may reach extreme grades. The metabolism in under-nutrition is too extensive to discuss at this point, hence I can do no more than say that inanition, with all of its sequela, is present.

3. *Decomposition Processes in the Stomach.*—Normally no decomposition processes are observed in the stomach. Motor insufficiency is the chief cause of abnormal decomposition. These processes affect the carbohydrates and proteids and not the fats, at least the latter to a very slight extent. In the abnormal decomposition of carbohydrates, due to stagnation of food in the stomach and secondary bacterial action, we have lactic acid fermentation, butyric acid fermentation, acetic acid

fermentation and alcoholic fermentation. All of these conditions give rise to chemical changes in the composition of the gastric contents and may, by pressure effects, bring about general changes which may temporarily influence the metabolism. In the proteid decomposition we find, as abnormal products, ammonia, hydrogen-sulphide, indol, acetone, etc,

The influence of the chemical processes in the stomach is more a qualitative one than any specific change. In cases of hyperacidity with stagnation we observe alcoholic and acetic acid fermentation, while in hypoacidity with dilatation we find lactic and butyric acid fermentations. These rules suffer many exceptions, the different fermentations appearing without reference to the amount of acid. The proteid putrefaction usually associates itself with the fermentation of carbohydrates, but the latter is usually predominant. There is no fixed rule as to the substance to be produced by the different bacterial processes. All those researches, intended to show that a special form of decomposition is characteristic for a certain clinical entity, have proven worthless. Thus the appearance of lactic acid, to the exclusion of HCl, has been supposed to be an early sign of carcinoma of the stomach, but this is right only in so far as the combination of motor and secretory insufficiency, which leads to this condition of chemical composition of the juice, is usually an early condition in carcinoma, but may obtain in other states (Schmidt).

The amount of carbohydrate and proteid which is lost to the body by these decomposition processes in the stomach is too slight to affect the general nutrition, but we may have, as a direct result of such disturbances, marked changes in the activity of the stomach and, secondarily, of the bowel. While these processes are originally made possible by disturbances in the secretory and motor activity of the stomach, these latter processes are, in turn, affected by these same conditions which they themselves have brought about. Such a combination leads to a condition of under-nutrition, with resulting cachexia, but such is not due to the sole effect of the decomposition processes.

I can not go into a discussion of the influence of such disturbances upon the secretory and motor activity of the stomach or of the incidental result of their presence on the activity of the bowel. I must also leave undiscussed the effect of disturbances of secretion and of motility of the stomach on the activity of the bowel. We all are familiar with the so-called gastrogenous diarrhea, as a result of diminished acidity of the gastric juice and especially of achylia, while the gastrogenous constipation is a result of hyperacidity. Moreover, we must remember that a hyperacidity retards the passage of chyme into the duodenum and also, according to Pawlow, that a condition of hyperacidity calls forth an increased pancreatic excretion and a hypoacidity a lessened excretion of this juice owing to the direct stimulation of the pancreas by HCl. We see, then, that the general and special metabolism is most affected by disturbances in the motor functions of the stomach. This condition is, in its place, brought about by abnormal secretory activity, which may

lead to decomposition processes. Thus the combination of conditions leads only to a condition of inanition, whose metabolism is well known. Were the stomach capable of greater absorptive powers we would find the disturbances mentioned leading to a more varied metabolic picture.

INFLUENCE OF INTESTINAL DISORDERS.

We must remember, in this connection, that the intestines are capable of digesting all the constituents of food, with the exception of uncooked or smoked connective tissue fibers. This digestion takes place almost exclusively in the small intestine, to which portion absorption is largely limited, the large intestine absorbing only water and a very small portion of the digestive products. The abnormal decomposition processes are, however, limited for the most part to the large intestine, the small intestine taking part only in rare cases.

1. *Disturbances of Secretory Activity.*—In discussing the influence of intestinal disorders upon metabolism we have to consider the close relationship of each sort of a change upon the whole activity. However, for the sake of bringing out the separate points, we will take them up separately and then discuss the combined effects. The disturbances of secretion have reference to variations in the secretion of bile, pancreatic juice and succus entericus. Disturbances of the first two functions are closely connected with general body metabolism, while those of the third function are little understood.

(*a*) *Bile.*—I will take up briefly the influence of disturbances in biliary formation and excretion into the intestines only in so far as such changes influence the activity of the bowel. The discussion of the effects of stagnation of bile in producing jaundice and the metabolism in this condition must be passed over, as also the condition of urobilinuria, which is of undoubted intestinal origin. Pleiocholia or pleiochromia are results of blood changes and are only indirectly connected with intestinal disorders. Naturally the absolute exclusion of bile from the bowel, as a result of occlusion, influences the digestive and absorptive powers of the bowel in so far as the absorption of fats and the putrefactive processes are concerned. Complete stagnation of bile exerts a reflex action on the acid secretion of the stomach in the sense that a hyperacidity is usually present in icteric cases. This condition has been supposed to exert a slowing effect on the motility of the bowel, but the researches of Boas and Schmidt teach the reverse. This is due to the increased amount of feces as a result of lessened absorption of fat as well as to the stimulating effect of the fatty acids on the musculature of the large intestine.

As regards the influence of biliary exclusion on digestion and absorption in the bowel, we find that the fats alone are affected. As Müller has shown, about three-fourths of the ether extract of bile-free feces is in the form of fatty acids or of soaps and one-fourth as neutral fat, hence we must conclude that the chief function of the bile has to do with the rendering soluble of the fatty acids and soaps and of stimulating the epithelium to absorption rather than, as is commonly taught, to emulsify the fats. With reference to the influence of exclusion of bile

upon the putrefactive processes, we must say that the question is still unsettled. Although the bile acids have, in vitro, a disinfecting power, yet we are not justified in assuming that such is the case in the bowel. Were such an influence exerted it is hard to understand why, in cases of long-standing exclusion of bile, we do not find catarrhal processes as we do in cases of marked putrefactive processes in the bowel. Moreover, Strasburger has found, in conditions of jaundice, a marked diminution in the bacterial content of the feces. Such being the case, putrefactive processes must be reduced.

(*b*) *Pancreatic Secretion.*—We must remember that it is only the continuous complete lack of pancreatic secretion that is of importance in digestion. Even this condition may exert little influence upon the digestive processes, as Oser, Truhart, Körte and others have shown. Why this is so is hard to say, yet we know that accessory pancreatic glands are often present and that the other digestive organs and secretions may take on vicarious functions. The chief result of lack of pancreatic secretion is a marked disturbance of absorption and digestion of fats and proteids, while the carbohydrates are absorbed as usual.

The fatty stools of pancreatic disorders are too well known to need much discussion, but a few points differentiating them from those of jaundice may not be out of place. The fatty stools, found in cases of abnormal activity of the pancreas, contain bile, have a higher percentage of neutral fat than do those of jaundice, contain undigested muscle fibers, and show a marked tendency to putrefy. In some cases we find that in men, suffering with obliteration of the pancreatic duct, the absorption of the fat is as great as normal, while in animal experiments marked disturbances of the fat absorption are observed, following removal of the pancreas. The former condition of affairs may be due to the fact that accessory glands may be active or that a second duct may be present. In cases showing fatty stools larger amounts of lecithin than are normal are found when the disturbance is due to the pancreatic lesions. Naturally we should expect to find in cases of marked disturbance of the pancreatic secretion that the proteid digestion was not carried to the normal limits. This is shown in the appearance of muscle fibers in the stools and in a large N-content of the feces. As only the splitting products of proteids are usually absorbed, we find a low nitrogen value in the urine as well as low values for the urea-forming function of the liver. The combination of azotorrhea with steatorrhea may be taken as fairly conclusive evidence of a disturbance of pancreatic secretion. The influence of lack of pancreatic secretion on the digestion of carbohydrates is small. Fr. Müller has shown that these food substances are utilized as normally.

The influence of disturbances in the pancreatic secretion are both general and special. Regarding the special influences, that arising from disturbance of the internal secretion, I have nothing to say. In regard to the external secretion, we find that complete failure of this secretion may, under certain conditions, lead to death from inanition. As the food can not be properly digested and hence absorbed, it has very little

food value. This condition brings about a state of slow-wasting and, although factors previously mentioned may prolong life for some time, death is the result.

2. *Disturbances of Motility.*—The various conditions of motor disturbances of the bowel all lead to a disturbed state of digestion and absorption. In those cases in which increased peristalsis is observed, either as a result of specific irritants or of diseased conditions, the absorption is lessened owing to the passage of the material through the bowel before it is properly split up and ready for absorption. Both the condition of diarrhea and constipation arise from an abnormal peristalsis of the large intestine, but occasionally such changes arise in the small bowel. Usually the diarrhea is accompanied by loss of waste products as the absorption has already taken place in the small intestine. In those conditions which are associated with inflammation of the mucosa of the small intestine we find the utilization of food reduced to small proportions.

In cases of constipation we have accelerated absorption of food products, and particularly of water, leading to hardening and inspissation of feces. It is in such states that abnormal decomposition of the contents, due to bacterial action, takes place, and we may have the condition of auto-intoxication through absorption of abnormal products. According to Ury, we must assume that lessening or increase of peristalsis has no influence on decomposition in the bowel, at least as far as the large intestine is concerned. Strasburger has shown that the feces in constipation contain fewer bacteria than do those in diarrhea. We must conclude from these observations that constipation is not necessarily associated with increased decomposition in the intestines, although the urine contains in such conditions increased amount of ethereal sulphates, etc. The increased absorption must rather be held accountable for the increased excretion in the urine.

3. *Disturbances of Absorption.*—Disturbances of absorption are often the only signs by which we may arrive at a diagnosis of disease of the bowels. This condition is closely linked with those of disturbances of secretion and motility and has been discussed previously. Such disturbances may lead to conditions of mal-nutrition, provided the change is sufficiently marked as to interfere with absorption of food products. In other cases this condition is a function of direct disease of the intestine, which in its turn is associated with other general conditions such as cirrhosis of the liver, heart weakness, tuberculous or catarrhal inflammation of the bowel, etc. Although these conditions may lead to loss of weight, this is more directly traceable to other than intestinal causes.

4. *Decomposition Processes.*—The bowel is the only organ of the body in which from the first day of birth bacterial decomposition processes occur without affecting the general condition of the organism. The ordinary processes which occur in the bowel abnormally are fermentation of the carbohydrates, putrefaction of the proteids and conversion of the fats to lower fatty acids. The last process has little meaning.

Normally the fermentation of the carbohydrates occurs in the lower parts of the small intestines, while the putrefactive processes take place almost exclusively in the large bowel. Occasionally we find these putrefactive changes in the small intestine and in such cases the decomposition products as found in the urine are much increased, owing to the greater absorptive power of the small bowel. In the cecum and colon the places of most marked decomposition, fermentation and putrefaction are associated.

Where must we draw the line between normal and abnormal decomposition in the bowel? That the products formed may exert some toxic action on the system is true, but we must not exaggerate these influences. Skatol, indol, etc., may cause headache, neuralgia, neurasthenic symptoms, etc., yet, as Robighi has shown, symptoms of poisoning are shown in dogs only when 1 gram per kilo is injected. The production of acetone and diacetic acid in the feces has been assumed by Petters, Litten, von Jaksch, Lorenz and others to be a sign of intestinal intoxication leading directly to a state of acidosis, which markedly affects the general metabolism. Keller, Pfaundler, Czerny and others have made this condition accountable for the cyclic vomiting observed in children. Ptomaines, such as putrescin and cadaverin, have been found in the urine by Udransky and Baumann, Stadthagen and Brieger in cases of cystinuria, which is associated with abnormal proteid decomposition. It is quite possible, when the true nature of this disorder of metabolism is known, that these substances may be found to be derived from abnormal tissue metabolism and not from that of food products.

The subject of the influence of these decomposition products on general metabolism is still an unknown field. Little is known as to the effects of such substances. While it is true that abnormal decomposition in the intestine is associated with abnormal products, yet none of the products studied are sufficiently toxic to account for the general effects of such disturbances. We should look rather to unusual types of proteid digestion in such conditions. The question of intracellular activity is more fertile as a field of research, in the writer's opinion, than is the constant study of the products of bowel activity. Abnormal metabolism is easily brought about by conditions of malnutrition, and such may be the result of unknown causes arising from perverted activity of the bowel.

CONCLUSION.

There is no doubt that the stomach and intestines both exert an influence on metabolism, combinations of their disorders bringing about the most marked results. Abnormal activity of either or abnormal formation of products will lead to conditions which affect the general nutrition or bring about the absorption of abnormal products which are foreign to general metabolic activity of the body cells. Such conditions call for abnormal activity of the other organs and of the system as a whole. The stomach and intestines may well be regarded as the guardians of the metabolic well-being of the system, as no normal metabolism can be maintained without their coöperation.

100 State Street.

ILLINOIS MEDICAL JOURNAL

THE OFFICIAL ORGAN OF THE ILLINOIS STATE MEDICAL SOCIETY.

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JUNE 1907.

THE ROCKFORD MEETING.

The fifty-seventh annual meeting of the Illinois State Medical Society, which convened at Rockford May 21, was, as usual, a distinct success. The attendance was large and the preparations made for the entertainment of the profession were adequate, the papers read full of interest, and the discussion of them timely. The combining of the sections after a trial of division for several years was found to be more satisfactory because every one had an opportunity of hearing every paper read and their authors were assured of good attendance at all times. The attendance at the sessions of the Medico Legal Committee was remarkably good, and the few papers read were given an attentive hearing, showing the intense interest which the profession has in this subject. The church was filled Tuesday evening to hear the addresses of President Percy and Dr. Robert B. Preble, representing the section on internal medicine. Dr. Percy's address sustained his reputation of an eloquent public speaker that he has made during the year in various parts of the state, and Dr. Preble's address took up the subject, "The Rôle of Gross Parasites in the Diffusion of Infectious Diseases," in a manner to interest both the lay and professional hearers.

A deserved compliment was paid Dr. Charles W. Mayo of Rochester,

Minn., by the large attendance at his lecture on Wednesday afternoon, when he read a paper on "The Surgical Treatment of Hyperthyroidism, or Exophthalmic Goiter." The subject was handled in a masterly way by Dr. Mayo and was profusely illustrated by cuts and photographs. The event of most interest during the meeting was the complimentary banquet tendered Drs. J. H. Hollister and W. O. Ensign at the Hotel Nelson Wednesday night. Notwithstanding the lateness of the hour, these faithful pioneers were accorded a great ovation when they arose to address the large assembly, and none could doubt their appreciation of the compliment tendered them.

Among the assembly we noticed Drs. Fairchild of Clinton, Iowa, and L. W. Littig of Iowa City. A number of practitioners from southern Wisconsin also attended the meeting.

The business of the society was thoroughly discussed and advanced in the House of Delegates. President Percy's suggestions of the employment of a salaried organizer was placed in the hands of a committee and will undoubtedly result in a marked increase in the membership of the state society and a more thorough organization of professional forces. Another movement along this same line was the endorsement of the idea of admitting the Homeopathic and Eclectic societies to the benefits of the Medicolegal Defense Fund.

Dr. W. L. Baum of Chicago was elected president, and his well-known industry and organizing ability assures a continuance of the advancement which has marked the history of the society for the past eight years. Drs. Lilly and Culhane were rewarded for their efforts in behalf of the society by being elected first and second vice-presidents, respectively. Drs. Weis and Brown, faithful officers, were re-elected to their present positions.

THE LAY PRESS ON PRESIDENT PERCY'S ADDRESS.

Without comment we give herewith an editorial on part of President Percy's presidential address at Rockford appearing in the *Chicago Chronicle*. This is a live topic and a subject for much discussion which may be beneficial to the entire profession. It goes without saying that the lay press looks at the subject from a very different standpoint from the medical profession. There may be concessions necessary from both sides.

The *Chronicle* says:

"He was a wise ecclesiastic who remarked in defense of tuneful choirs and melodious pipe organs in churches that he did not believe in giving the devil a monopoly of the good music. The principle extends to other things.

"It applies, for instance, to the attitude of the 'ethical' members of the medical profession toward advertising. These gentlemen are forever deploring the tendency of people to patronize those whom they term 'advertising quacks.' Is this not another case of permitting the devil to monopolize the good music? If people rush to the 'quacks' because the

'quacks' advertise might they not be attracted to the legitimate practitioner if those scientists should advertise?

"So far as we know the strictly 'ethical' physician is the only business man who deems it disgraceful to advertise what he has for sale. He has skill and professional knowledge in stock, but he refuses to inform the public of the fact. How long would any other business last if it were conducted on that principle?

"To relinquish the advantages of advertising to the so-called 'quacks' is merely to give the 'quacks' the tremendous benefits derived from judicious publicity. In nearly all other lines of business than medicine there is the keenest rivalry in the matter of advertising. In that profession men reprehend what nearly all other business men deem vital in the conduct of their business.

"It is encouraging to note that there are signs of an awakening even among the 'ethical' physicians. In his address before the Illinois Medical Society at Rockford, Dr. Percy of Galesburg, the president, recognized the situation.

" 'We must change our attitude toward the public on the subject of newspaper advertising,' he said. 'The irregulars use the press extensively and they educate the public to the injury of all real scientific advance. We must use the same means to forward the true aims and objects of science.' Dr. Percy, in short, does not believe that it is wise to leave the devil in control of good music.

"When his confrères make up their mind to accept and exemplify his views there will be less talk of 'advertising quacks.' When advertising ceases to be stigmatized as quackery—which it is not—physicians will employ the same medium of publicity that are used by other men and will profit by them."

STATE AID TO MEDICAL SCHOOLS.

A prominent member of the state society offers the following suggestions for the basis of settlement of the matter of state aid to medical schools. We print this without comment and would like to have the matter discussed in the columns of THE JOURNAL. His suggestions are as follows:

First.—Let the state establish requirements for medical students and applicants for the degree of M.D. as high as those of England, France, Germany and other enlightened countries and at the same time prohibit any one from beginning the practice of medicine in this state who had not fully met these requirements. Of course, the law should not be retroactive. This country and this state is old and rich enough to afford and be entitled to as good medical service as any place on earth.

Second.—It costs between two and three times as much to educate a medical student as he pays into the college; therefore, let the state appropriate about $1,500 for every student graduated in medicine in the state and pay it to the school from which he graduates, the officers of the

state universities or board of health, or both, being required to insure the student meeting all their requirements, and let the school furnish thorough instruction.

THE RIGHT TO HOLD AN AUTOPSY.

An important medicolegal question was decided recently in the Circuit Court of Sangamon County, Judge Shirley presiding. The relatives of one John Gonsalves, who was admitted to the Springfield Hospital as a pauper, sued the attending physicians, Drs. Ottis and Graser, because a postmortem examination had been made upon the body of Gonsalves, without the consent of his relatives. The suit was decided in favor of the physicians, the judge instructing that the hospital was a public hospital within the meaning of the law and the body that of a pauper destined to burial at the public expense. It was shown that at the time Gonsalves was admitted to the hospital he came as a pauper and that his relatives were never known in the matter until they came to claim the body.

EFFECT OF CHICAGO SEWAGE ON MISSISSIPPI RIVER.

The discharge of the sewage of the city of Chicago, by way of the Chicago Drainage Canal and the Illinois River into the Mississippi River, raised a question as to the possibility of the pollution of the Mississippi from such source, of great importance in connection with problems of municipal water. To decide this question a proceeding in equity was instituted by the State of Missouri on Jan. 17, 1900, against the State of Illinois and the Sanitary District of Chicago, and the testimony taken in this suit comprises the best symposium on river pollution, its biological and chemical aspects, and its general and special sanitary significance that has ever been assembled. The contentions of both parties to the suit were supported by the most eminently qualified men in the United States, and the evidence presented and the discussion recorded are, therefore, of unique importance.

A digest of this evidence, prepared by Mr. Marshall O. Leighton of the United States Geological Survey, has just been published by the Survey as Water-Supply Paper No. 174.

From a mass of testimony so voluminous that the average mind shrinks in dismay from the mere thought of traversing it, Mr. Leighton has produced an abstract whose fairness must be generally conceded. Skillfully avoiding the irrelevant and purely incidental features of the discussion, he has selected the salient points presented by both sides, and put them in such form as to render them readily intelligible even to the layman. As a result the substance of eight bulky volumes—over 8,000 pages—has been condensed into one volume of 350 pages, and the object stated in the introduction—the presentation of a faithful statement of the scientific phases of the testimony, to the exclusion, if need be, of the legal aspect of the case—seems to have been attained.

The report closes fitly with the full text of the opinion of the court, as rendered by Mr. Justice Holmes, Feb. 19, 1906.

This digest and report can be secured from the office of the Hydrographer U. S. Geological Survey, Washington, D. C.

Correspondence.

THE DIGNITY OF THE MEDICAL PROFESSION IS UPHELD.

The medical profession should feel very grateful toward Governor Deneen for his action in reference to House bill No. 845, known as the Optometry bill, which he refused to sign, and, indeed, his Excellency is to be congratulated for his wisdom and good judgment in vetoing same. He has given good and valid reasons for his action in the matter in the context of the "veto," in which he upholds the dignity of the medical profession.

There are two points in the "veto" that are worthy of special mention: first, the definition of terms which is pertinent, since the laity does not make careful distinction in these matters, and, second, that the refraction of the eyes and the prescription of glasses is looked upon as belonging to the practice of medicine. In the first instance, the "veto" reads as follows: "A doctor who treats the eye is called an oculist as distinguished from a person uneducated in medicine who may learn to use a set of trial lenses in a few weeks and call himself an optometrist." The service of the former is to be regarded as professional skill, the work of the latter as that of a craftsman; this difference is beautifully expressed in the words of President Faunce of Brown University: "In two respects the medical profession deserves the grateful recognition and regard of all other callings in modern life. We have always insisted that the practice of medicine is a profession and not a trade. Trade is occupation for a livelihood; profession is occupation for service of the world. Trade is occupation for joy in the result; profession is occupation for joy in the process. Trade is occupation where anybody may enter; profession is occupation where only those who are prepared may enter. Trade is occupation taken up temporarily, until something better offers; profession is occupation with which one is identified for life. Trade makes one the rival of every other trade; profession makes one the coöperator with all his colleagues. Trade knows only the ethics of success; profession is bound by lasting ties of sacred honor." The second point is very significant and worthy of emphasis: "An oculist may use a drug to suspend accommodation, because he is a graduate of medicine as a foundation for his social studies relative to the eye. An optometrist may not use such drug, nor any other medicine, nor treat the eye, because he is not licensed by the State of Illinois to practice medicine."

The ultimate aim of glasses is to correct refractional errors and secure to the patient a better and a more comfortable vision; but, since there are so many conditions of the eye that reduce the visual power, many of

which depend upon pathological changes and lesions of its structure (which glasses can not benefit), it becomes all the more important to make a correct diagnosis, and in very many instances to make an early diagnosis, for the patient. Competency and reliability can only be secured by one who has received a careful medical education and training. Therefore, it is only reasonable to assume that the work of the optometrist encroaches upon the rights and privileges of the medical profession, or, in other words, that the refraction of the eyes and the prescribing of glasses belongs to a department of medical science known as ophthalmology.

J. WHITEFIELD SMITH.

NURSES THANK MEDICAL PROFESSION.

May 4, 1907.

The members of the Illinois State Association of Graduate Nurses wish to express to the medical profession of Illinois their sincere appreciation of the earnest and loyal support and confidence they have had shown them by the medical profession in the work of securing state registration for nurses of Illinois; and earnestly hope that the work of the new board, soon to be appointed, may ever reflect credit upon its supporters and friends.

CAROLINE D. SEIDENSTICKER, *Chairman.*
ADDA ELDREDGE.
MINNIE AHRENS.
MARY C. STEWART.
IDA M. TICE.
MARGARET KANE.
MONICA TRACY.
HARRIET FULMER.
M. C. WHEELER, Quincy.
CARRIE S. FLATT, Bloomington.

Special Articles.

THE COUNTY SECRETARY—HIS OPPORTUNITIES AND HIS DUTIES.

W. O. ENSIGN, M.D.
RUTLAND, ILL.

From the very nature of the county medical society and its usual form of organization, together with the corps of officers necessary to the proper conduct of its business affairs, and the successful accomplishment of the commendable purposes for which it is constituted, it may at once be seen that on the secretary, more than upon any other member of the society, rests the principal burden of the organization's success; and such is the eventual experience of nearly every local medical society.

In the assumption of such responsibilities, therefore, the secretary finds placed before himself opportunities and duties of no slight importance to the physicians of his own locality and, in some measure, to the welfare of the profession at large. The actually existing relations between most medical societies and their respective secretaries are such as we believe, without fear of successful contradiction, to be truthfully expressed in the following statement, viz., that while a society might have brief, or even periodical, prosperity through the efforts of its other officers or members alone, yet one which possesses at all times a devoted and efficient secretary will never want for a continued success, and one which can be very accurately measured in character by the extent of such officer's devotion and efficiency. The almost universal experience of medical society organization and progress in the past can but substantiate such affirmation, admitting, however, that in the end the most completely successful results can best be attained where the efforts of such capable secretary are heartily supplemented by the earnest coöperation of his associates.

The opportunities thrown open to the secretary of a county medical society are, therefore, many and important and may be said to consist of such as relate to his society, to himself and to the profession. As relates to his society:

First.—To aid in the development of the local or county society to the highest possible degree of usefulness and benefit to all concerned.

Second.—To faithfully look after the financial and other interests of the organization that its perpetuity may be assured.

Third.—To promote the good name and influence of his fellow practitioners and of his own county society.

As relates to himself:

First.—To occupy therein a position of honor to himself and usefulness to his profession.

Second.—To bring himself into closer association with the physicians of his own locality.

Third.—To become a useful factor in the work of the general organization and advancement of the entire medical profession.

As relates to the profession:

First.—To come to a knowledge of the professional character and needs of every physician in his society's territory.

Second.—To stimulate the mutual interest of individual medical practitioners in each other and in the welfare of the profession of his locality, and to encourage social and professional comity among them.

Third.—To bring all into a closer knowledge of the advantages of professional organization, and to promote the general progress and good standing of the whole medical profession about him.

Without dwelling separately or at length upon the several opportunities herein outlined, it might be said in general terms of his duties that they consist in availing himself of such already named and other possible opportunities to secure the greatest amount of good obtainable for

the advantage and welfare of the membership of his county and locality and, in the end, the advancement of the entire medical profession.

To enable the secretary to efficiently discharge the duties of his office a third factor for consideration here might well have been added to the topic assigned for these remarks, viz., the duty of the society to its secretary. In a very large majority of the county societies no financial remuneration, or other emoluments worthy of mention, are to be looked for, or are likely to attend the performance of the work of such officer. His faithful discharge of the often exacting duties, as to both time and effort, is usually considered to be but a gratuitous contribution on his part to the welfare of the profession and the society he represents. The society and its individual members, therefore, owe it to the secretary that he be at least cordially and helpfully sustained in the performance of his oftentimes onerous labors, and when a member has shown himself to have been both active and competent as a secretary he should be encouraged to continue in such office so long as his efficiency and his own willingness to serve in such a capacity are mutually favorable, since each additional year of faithful service can but add to his experience and other desirable qualifications for the position.

In the full and complete discharge of his duties, first and last of all others, the secretary should strive to get in cordial touch with each and every member of the profession within his own territory. Personal feelings of animosity toward or distrust of others, on his own part, must be restrained, and his success in so doing will be strongly in evidence whenever the name of every member of the profession of his own town or vicinity has been added to his society's roll of membership. A uniformly courteous and impartial treatment of each member, in the discharge of his several duties, such consideration being governed largely by a desire for the general good of all and made in strict compliance with the rules and regulations of the society, will serve to avoid very many disagreeable and annoying complaints, although it can scarcely be hoped to entirely eliminate all such objectionable features, since it would seem to have been foreordained that we should be liable to have the cynic, like the poor, always with us.

The financial duties of the secretary, whether, as is quite customary in county societies, they be combined with those of treasurer or are such as more properly belong to the secretary's office only, should be thoroughly and accurately discharged, and no dues or other funds should be received by him without at least three following entries are promptly made, viz., first, a receipt naming the date and explaining the nature of the payment made, and to be given in return to the payer; second, a stub duplicate corresponding to the receipt issued, to be retained by the secretary; third, an individudal record of such payment plainly entered upon the financial books of the society. These separate entries are usually sufficient to serve all necessary purposes of record and to mutually correct errors of entry, if any such may have occurred in either, as well as to protect both the society and the individual member. Such stubs and book entries should be open to inspection by the society or any of its mem-

bers and, with each financial report made annually, or even more frequently, should then and there be duly audited by action of the society, both for the protection of the good name of the secretary and the creditable standing of the organization.

Neat, accurate and complete records of the transactions of the society, preserved in a legible and permanent form, should be the aim of every secretary. Such record should not only embrace a full report of each and every meeting held, but might be an hundredfold increased in value if with them were entered creditable personal items of note, if any appear, concerning members and conditions of the profession throughout the county during the interval between regular meetings. Combined together such entries would constitute important records of local professional and historical interest, not only of present worth, but whose value would be doubly enhanced with increasing years. In commending such records, however, we are not to be understood as approving prolix and irrelevant accounts of proceedings embellished by the individual views of their authors, but rather a complete and unqualified entry of all items, or facts of interest, connected with the actual transactions of the society. On the other hand, not infrequently the secretary's report is but such a brief abstract of the exercises held as to be almost incomprehensible to others at the time and perhaps a year or two later equally to himself as well.

Whenever we contemplate the fact that the records of the early medical societies within our commonwealth, full or incompetent as they may then have been, are now very rarely to be found, even if by chance any may be in existence, we are able to realize in some measure that although of perhaps little apparent importance to such organizations at the time, they would now constitute documents of no little value to us as sources of information, not otherwise obtainable, concerning the early history of the medical profession of the state.

From the fact that not to exceed a half dozen of the local medical societies, organized more than a half century since, have had a continuous existence down to the present time, we cannot but be convinced that among the records of the considerable number which from time to time have had a more or less variable existence in the past, and whose reports are now practically lost, there must have been much recorded of probable later historical value to our profession as well as of interest to the public. Thus had the records of all the now defunct local medical societies in this state been properly prepared and placed in the hands of their several county historical societies, or otherwise permanently preserved, for future reference, they might have become sources of much further usefulness at this time, especially to our own profession.

Many such county or other local medical societies throughout Illinois were doubtless either temporarily or permanently discontinued about 1861 or soon afterward, owing to the departure to the Civil War of many of the medical profession constituting their membership. Were properly preserved records of such organizations now available much light might be thrown upon the services thus rendered, and the important part taken

by the medical profession of this state in that great and important conflict. Indeed, it might be here stated that the subject of the medical men of Illinois in the Civil war has never received the attention or consideration it so justly deserves, and this perhaps largely for the want of the necessary data on which to make such history complete.

Each county secretary, therefore, in preparing such reports should always have in mind, not alone the temporary value of his records to the society which he may serve, but likewise their probable future importance to the profession and the public as a reliable part of his own county's history. Hence a full and perfect record will not only bring to his work the hearty approval of his fellows, but it may in after years become a source of further usefulness and meet with the appreciation and cordial commendations of future historians of local and state history.

An active and efficient medical society secretary, of the necessary self-sacrificing and devoted type, thoroughly observant of his opportunities and consecrated to his duties, is, indeed, a jewel, and his zealous missionary spirit, like the inspiration of the true poet, may be said to have been born in him, not made.

HOW TO MAKE THE COUNTY SOCIETY SUCCESSFUL.

D. G. Smith, M.D.
ELIZABETH, ILL.

As this is a meeting of the secretaries, this subject is to be looked upon from the secretary's standpoint, and in so doing I will consider the two main essentials which make a county society a success. First, always a good scientific program, and, second, a good social program. Now, how to bring about these two features is a problem of no small importance. This scientific program should be an interesting and practical one; if the society is made up mainly of county practitioners or of physicians from small towns eight out every ten subjects should be handled from the medical standpoint, and the surgical subjects or surgical side be discussed by a surgeon of known ability.

During the course of a year every member should have at least one opportunity to participate in the program, either by paper or discussion or in presenting a case before the society. With many societies the arranging and getting up of the program is left with the secretary; this is certainly no small task, and it is the one that gives me the most anxiety. I find there are always more men willing to be excused from taking part in the program than are willing to act and it is often a difficult matter to get sufficient material. A society that meets but four or six times per year should have at least one or two meetings in which there is some one from another county or state to be the essayist or main drawing card; such members who think they cannot learn anything from their immediate colleagues will come out to these meetings, and when once there will listen to discussions by their neighbors and profit thereby. To provoke interesting discussions is the most difficult task, after a subject has been well handled in an essay and by an able writer. Here is

where it is wise sometimes to reverse the order and have a home member open the subject by essay and have the foreign talent discuss it; this will give a change, be edifying and bring better success to the society; in fact, the subjects should vary and something new be presented every time so that not a single member can afford to be absent.

To maintain the interest in a meeting when once arranged it is necessary to have a presiding officer who can keep the ball rolling and maintain the interest throughout the meeting, who can fill in a vacant spot and not allow those dry, quiet or do-nothing periods to occur. Sometimes a subject and essayist will obtain space on the program which will put the majority of the members to sleep; it is here where tact must be shown and have something to follow that will overbalance the former so that the members will go away well pleased and with no recollection of the dry-bone subject.

The second, or social feature, is one which depends upon the makeup of the physicians of the county; every county that does not have a successful society has some physicians who would rather not meet their colleagues, or opponents as they call them; it is after they have mingled together in a society meeting and exchanged social greetings that they decide that the fellow is not a bad sort after all. How can this be done? Not by appointing a place and hour of meeting and one after another slip into the hall, sit there until all is over and then start home again. Allow me to quote a method here that is in practice in my home society and that has aided us more in bringing about a friendly and brotherly feeling than anything else we could do. Our county is so geographically located that we must meet in the four quarters during the course of the year, and hence we have what is called four divisions for entertainment. The membership is divided at each annual meeting for this purpose, and when the society meets at any of these places the division that entertains at that place will be on hand, meet the trains, welcome the members, escort them to the hall or hotel, see that they are fed and not allowed to roam alone, have a dinner so arranged that all can dine together, and the expenses are paid by the entertaining division. The members and visitors go away well fed and entertained socially and scientifically and not allowed to use one cent of their own money. This feature has worked very well, and, as a rule, all go away knowing that there is that fraternal feeling existing that can only be found among noble men whose example it is well to emulate and in whose company one can not exist without being made better morally and intellectually.

COUNTY AND DISTRICT SOCIETIES

CLARK COUNTY.

The Clark County Medical Society met in Dr. Haslit's office at 2 p. m. The president and vice-president being absent, Dr. Hall was elected chairman. Members present were Hall, Prewett, Burnsides, Bradley, Duncan, Haslit, L. J. Weir, S. W. Weir, and Ryerson. Dr. C. B. Barlow, Councilor of the State society for this district, was present. Dr. Burnsides reported a case of death from shock, following a railroad injury. Thigh was fractured, no other injury found. Dr. Haslit reported a case of abdominal pain, severe; slow, weak pulse, no fever. After a few hours vomited blood, died in 28 hours. Diagnosis, perforation of stomach. Other similar cases were reported in the discussion of this case. Dr. E. M. Duncan read a paper on the Symptoms of Typical Influenza and Some of its Complications. The paper was original, written from the doctor's personal experience with the disease for thirty years. It was well received and the subject was discussed extensively by every physician present.

Officers for the ensuing year were elected as follows: President, Dr. Ryerson; secretary-treasurer, L. J. Weir; vice-president, G. W. Prewett; censors, G. W. Prewett, P. P. Haslit, and Joseph Hale; program committee, E. M. Duncan, R. H. Bradley, and L. J. Weir; committee on necrology, Prewett, Duncan, and Bradley; delegate to the state society, Dr. G. F. Rowland.

On motion of Dr. Burnside, Casey was chosen as the place for the next meeting. Society then adjourned to meet at the Baptist church at 6 p. m., where ten physicians and their wives enjoyed an excellent banquet, followed by music, etc. The scientific discussion in the afternoon and the social feature in the evening made a combination especially profitable and pleasant.

COOK COUNTY.

CHICAGO MEDICAL SOCIETY.

Joint meeting of the Chicago Laryngological and Otological Society and Chicago Medical Society, held March 20, 1907, with the President of the Chicago Laryngological and Otological Society, Dr. J. Holinger, in the chair. Papers were read as follows: 1. "Relation Between Diseases of the Faucial Tonsil and Rheumatism," by Dr. E. Fletcher Ingals. 2. "The Relation Between Diseases of the Faucial Tonsils and Enlargement of the Glands of the Neck," by Dr. James T. Campbell. 3. "Discussion of the Occurrence of Tubercular Disease of the Tonsils," by Dr. Charles M. Robertson.

DISCUSSION.

Dr. Joseph A. Capps:—In the absence of Dr. Herrick, who was to have opened the discussion on Dr. Campbell's paper, I was asked to take part in the discussion on the relation of inflammation of the throat to inflammation of the lymphatic glands. Dr. Campbell has already covered the association of inflammation of the throat and glands so thoroughly that I will only speak of one group of cases to which he did not pay any special attention, since his paper was so broad in scope. I refer to the type of cases with acute cervical adenitis that occurs especially in children, with a simple sore throat. When I say simple sore throat, I say it purposely, because its etiology is not definitely settled. It is a type of sore throat, however, we would ordinarily call a grippe sore throat, and this combination of sore throat and adenitis is especially interesting and important just now for two

reasons: First, the combination has in the last year been more prevalent than usual, and, second, some new light has been thrown upon the etiology of these infections.

Etiologically, perhaps, this is not a distinct group, but clinically it is, and I think it would be well to point out some of the characteristics of this class of cases. The clinical picture I refer to is this: A child has sore throat, high temperature, and a correspondingly rapid pulse. On examination the throat is seen to be neither ulcerated nor is there any follicular tonsillitis, such as we might have anticipated from the symptoms, but simply a red, congested throat. The soft palate, the tonsils, pharynx and naso-pharynx take part in this redness equally. The temperature remains high for several days. The infection is more severe than one would expect from the first examination; then gradually the temperature subsides. Perhaps there has been a slight glandular swelling, but not pronounced; when an exacerbation of the symptoms comes on. The fever rises usually to 104-5°; the pulse is rapid again, the child seems quite as ill or more so than at the first visit, and there is noticeable a very decided swelling of the cervical glands, particularly near the angle of the jaw, involving the deep cervical glands. This enlargement of the glands, at first discrete, is very apt to become diffuse, and is very rapid in its progress until the lump may become the size of a hen's egg or the size of the fist, and usually it is quite hard and tender, rather irregular in outline, and, as I said before, it is apt to become diffuse, so that we can not make out definitely the individual glands. This tumor mass, made up of inflamed glands, may remain without much change; the temperature continuing for a week or two weeks, possibly longer, when it follows one of two courses: it either begins to subside, and when once it begins to subside the improvement is rapid, or else the case goes on to suppuration. A red spot appears at some point, and either suppurates spontaneously or is opened, and a small quantity of pus is evacuated. Usually the whole group of glands does not suppurate, only a portion of them. I presume that this clinical picture has been more common in the last year or two, not because it is anything new, but because all infections of the throat have been so prevalent this last year.

In looking up my records I find that in the last two years I have seen five such cases which would fairly come within this group. Of that number, in four cultures were taken from the throat, and in all four influenza bacilli were found in considerable number; but the smear did not show a pure infection by any means. There were present also streptococci or staphylococci. Two cases progressed to suppuration, and the pus from them both showed streptococci in large numbers.

The etiology, as I said before, is not clear. The fact that grippe organisms were so often found in this group led me to make some inquiries among physicians with regard to these cases, and I learn that in many similar cases seen by other physicians influenzal infection forms a basis of the whole picture, and it recalls the so-called glandular fever which Pfeiffer described. Possibly it is similar to the enlargement of the glands he described, and which he attributed to the influenza bacillus; but whether he found the influenza bacilli in the glands or not I do not know. The fact that in the two suppurative cases streptococci were found would suggest that the glandular swellings which break down are probably due to mixed infection. We might assume that we have grippe infection in a large proportion of these cases; that pyogenic cocci are present in some, possibly in all, and that these cocci are responsible for breaking down of the glands. I think it quite probable that the large gland tumors which do not suppurate are also due to the pus organisms, for we do not see in ordinary cases of influenza any marked predisposition to glandular enlargement. The diagnosis of these cases is not at all difficult. An important thing in my experience is the great size of the enlargement, the height of fever, and the constitutional symptoms. There is nearly always a leucocytosis of 15,000 to 20,000, and the appearance is quite alarming unless one has seen the same picture before.

These cases may be confounded with acute tuberculosis. In fact, Dr. Eisen-

drath, in a recent article, described two cases of a similar type clinically upon which he operated, and which he considered from the nature of the cheesy pus were tuberculous. It is certainly a very unusual form of tuberculosis. But the cases I have described in this general type can usually be readily distinguished from tuberculosis by the sudden appearance of glandular swelling, and even more by the rapid disappearance of the swelling. In some of these cases there may be a lump left in the neck for several months, but in the course of five or six or eight weeks, as a rule, nothing remains to tell the story. We could hardly conceive of a tuberculous disappearance so quickly and so completely. I think it would be profitable if cultures were more generally made in these cases in order that an etiological classification might be made.

Dr. Daniel N. Eisendrath:—This is a subject that interests the general surgeon almost as much as it does the specialist in nose and throat work, and it is one I have been particularly interested in for a number of years, and have kept accounts of the cases I have seen. The cases to which Dr. Capps referred are especially interesting. This winter they have not been as prevalent—at least I have not seen as many as I did last winter. These cases were what Dr. Capps has called acute enlargement of the lymph nodes of the neck, and probably correspond to some extent with those described by Pfeiffer in 1899 as glandular fever. In the cases which I saw the enlargement of the lymph nodes was out of proportion to the height of the temperature. Very frequently I was called to see these cases in consultation. A child, for instance, would have a temperature of 104-5°, with a relatively small number of lymph nodes enlarged, not larger perhaps than the average sized marble. During the present winter these cases have assumed a little different type, in that not only have they affected the lymph nodes of the neck, following primary sore throat, but they have affected the lymph nodes, as those of the axilla, the groin, apparently taking part in the process of a general infection, so that in some cases it was thought there was an acute lymphatic leukemia until the blood was examined.

The case which Dr. Capps referred to is one I reported last winter. This was especially interesting. The patient was a boy, 14 years of age, attending high school, who had been treated by his physician for grippe and enlargement of the glands of the neck. Following this treatment, his temperature apparently became normal. I saw him three or four weeks after the enlargement had begun. On account of a swelling existing in the sterno-cleido-mastoid muscle, and finding distinct fluctuation, I excised what I considered to be a typical tuberculous broken-down gland that continued to suppurate for about two weeks longer, and I did a radical operation, extirpating about twenty typical tuberculous glands in all stages, from the little tubercle to the large broken-down cheesy gland. Undoubtedly this was a case of mixed infection, where the Pfeiffer bacillus infection was in all probability, the primary cause of the trouble, and secondary infection with tuberculosis. It is of especial interest because these cases are apt to be overlooked and are considered to be ordinary glandular fever.

A number of very interesting points have been brought out. Unfortunately, I did not hear the paper of Dr. Ingals; I simply heard Dr. Robertson's reference to it. Dr. Robertson, in quoting Dr. Ingals, said there were no cases of primary tuberculosis of the tonsil, if I understood him correctly. I have had occasion to look up the literature quite thoroughly, and the first question that arises is this, What can be considered primary tuberculosis of the tonsil? The most rigid test of primary tuberculosis of the tonsil would be that at autopsy you can find no other focus of tuberculosis in the body. But that is impossible, and we must depend upon the clinical findings, as in tuberculosis of the lungs or intestines, and from our observation of the patient. There have been reported eleven undoubted cases of primary tuberculosis of the tonsil, the majority of them having been verified by autopsies and of finding primary tuberculosis of the tonsil, in which there were no other tubercle bacilli found in the body. The primary focus being in the tonsil, with secondary involvement of the lymph nodes of the neck.

Dr. Robertson referred to some researches that have been made by Luder, who

found in 32 cases only 5 of tuberculosis in extirpated tonsils. It is a hard problem to decide whether there is in these cases primary tuberculosis of the tonsil or not. In about sixty cases of operations for tuberculosis of the lymph nodes of the neck I have made it a rule to have associated with myself a laryngologist and rhinologist for the purpose of extirpating the tonsils. It is a fact not known generally by the average surgeon or general practitioner that tubercular lymph nodes of the neck will cease to develop in the majority of cases if we remove the primary focus, which, so far as we can tell, is in the tonsil. I have seen that verified clinically in two cases. One patient was a boy, 10 years of age, upon whom I operated for the removal of tubercular glands of the neck. I removed a large number of them, and at the end of six months he came back with as large a crop as before. I took out a second lot of these tubercular glands or nodes, and had a specialist remove the tonsils and adenoids. Since that time there has been absolutely no recurrence. I had the same experience in a second case. I wish to emphasize the point that in every case, where a surgeon operates upon tubercular glands of the neck, he ought to have the tonsils and adenoids removed, because the percentage of tubercular tonsils and adenoids, as researches show, varies from 8 to 10 or 12 per cent., so that we can not afford to take any chances in leaving them.

As to the relation between appendicitis and tonsillitis, scarcely a winter has passed during the last two or three years that surgeons have not seen tonsillitis in children followed by typical attacks of appendicitis, so that clinically the association of the two diseases is quite well established.

Dr. Robert H. Babcock:—I have not heard a discussion in this hall for a long time which I regard of so much importance to the general practitioner as the one to which we have listened this evening. Perhaps in this connection I might cite a remark made by the late Dr. Christopher in his last illness to the effect that, in thinking over his work among children, he was impressed by the fact that in nearly every instance of disease in children, of whatever nature, the portal of infection had been the throat, and that in a very large percentage of cases the portal of entrance had been the tonsil. This is a matter which I feel the general practitioner is not always sufficiently alive to; certainly the cases of adults that come to me, as well as of children, bear out the importance of the condition of the tonsils. A large majority of the cases I see are instances with some form of heart disease, perhaps valvular disease, and in nearly all the cases which I have investigated, since my attention was drawn to the subject a good many years ago by the researches of Fritz Meyer, have shown either chronically diseased tonsils or a history of previous sore throat, using it in a general sense, and many times a tonsillitis.

I do not know whether Dr. Ingals referred to the work done by Fritz Meyer in the effort to determine the bacteria responsible for acute articular rheumatism or not. The question is still *sub judice;* but I believe the trend of investigation and thought is to the effect that we must abandon our old notion that acute articular rheumatism is a blood disease in the sense of its being due to some chemical irritant; that it is, in fact, a specific disease. There have been a great many observations made which go far to prove, although they are not accepted by all, that the micro-organism responsible for attacks of acute articular rheumatism of the typical or classical type is a diplococcus allied to the streptococcus, and which has been styled the diplococcus rheumaticus. We must recognize various kinds of articular rheumatism, some of which seem to be of a specific type, and others which are due to streptococcus infection apparently, but are not specific.

With reference to the importance played by follicular tonsillitis in the production of acute endocarditis, I would like to cite the instance of a young man in this city who, in April, two years ago, developed an acute tonsillitis which he thought but little of, which was treated by his physician, and subsided to all appearances in a few days. He did not, however, regain his health fully, and in the latter part of June developed symptoms which, at first, were obscure and thought to be those of typhoid fever. The disease proved to be a streptococcus infection with malignant endocarditis, pure streptococci being obtained from the

blood. The disease progressed in spite of everything until he died in the following December, and the autopsy substantiated the diagnosis which had been made during life. In this case it was as clear as daylight that infection started in the tonsil; that it was apparently a trifling tonsillitis, and yet it resulted in this man's death six months later.

With reference to tuberculosis of the tonsil, I would only like to say that statistics are at variance as to the frequency of primary, as well as secondary, tuberculosis of the tonsil; but that tuberculosis of the tonsil does take place there can be no doubt, and that diseased tonsils in childhood furnish a culture medium for the development of such bacilli as may be inhaled is beyond all cavil, and, therefore, furnish a portal of infection which may ultimately result in pulmonary tuberculosis in adult age. Therefore, I am radical in my opinion and advice to parents to have the tonsils of their children removed.

Dr. Frank S. Churchill:—This is a subject which interests the pediatrician fully as much as it does the laryngologist. I would like to emphasize especially what Dr. Babcock has just said with reference to the importance of the removal of enlarged tonsils and adenoids in children. A child with enlarged tonsils which are always in a diseased condition is exposed constantly to repeated infections, not only minor infections, such as those produced by the streptococcus and influenza bacillus, but the more serious infections, such as those produced by the Klebs-Loeffler bacillus and scarlatinal infections. Such children are more apt to pick up these infections than if they are minus this disease of the tonsils. I always advocate and advise parents of patients to have these adenoids and enlarged tonsils removed.

There is one point to which I am afraid the laryngologists do not attach enough importance, for the simple reason that they do not see their patients afterwards as often as do the pediatricians: I am very much opposed to having the tonsils and adenoids of children removed in the fall and winter months of the year. I would have them removed, if possible, in the late spring or summer, on account of the climatic conditions under which we live, for I have seen repeatedly children from whom these gentlemen have removed adenoids and tonsils in the fall of the year, having persistent "colds" throughout the following winter, having attacks of infections of an unknown and indefinite nature. So I think it is quite important that the tonsils should be removed during the warm season of the year.

The paper in which I am more particularly interested is the first, that of Dr. Ingals, on the relationship of tonsillitis to rheumatism. It seems to me Dr. Ingals takes too limited a view of the term "rheumatism." It is among children especially that we have the best opportunity for studying the manifestations of this disease, for at this period of life it is most varied in its forms. In children we do not see an arthritis as the most common and frequent manifestation of rheumatism. We see rather endocarditis. Cheadle was one of the first, if not the first, to point out the broader conception of the term rheumatism. "Arthritis is at its minimum, endocarditis is at its maximum." Other manifestations of it are, in addition to tonsillitis and endocarditis, the subcutaneous enlargements which Cheadle and other Englishmen speak of frequently, also erythema and pleurisy, and some English writers speak even of certain attacks of appendicitis as a manifestation of rheumatism, which is interesting, apropos of Dr. Eisendrath's remarks about the association of tonsillitis and appendicitis. Chorea is another manifestation of rheumatism very often if not in all cases. These are not complications, but are manifestations of rheumatism. In this way tonsillitis would be regarded as a manifestation of rheumatism, pure and simple, not always, but in a great many cases. Taking this broad conception of the term, it is obvious that if we go carefully into the histories of our cases, both before we see them and follow them up later on, we shall find more frequently in our cases of tonsillitis a history of antecedent rheumatism; that is if we inquire whether or not the child has had any one or all of those different things—chorea, tonsillitis, endocarditis, erythema, pleurisy, etc. In children we must be prepared to see

these wider manifestations of the disease. Furthermore, these manifestations often cover long periods of time, stretching not only into weeks and months, but may be into years. They are apt to occur in children with a rheumatic family history; they occur in children who have had an attack of tonsillitis at one time; at another time an attack of endocarditis, and still another time an attack of erythema, or the development of subcutaneous nodules, etc.

Dr. Babcock spoke on the bacteriology and has quoted the work of Fritz Meyer, which is extremely interesting. After all, until we find out more about the bacteriology of the subject, our views will be more or less theoretical, but, as far as they go, of one thing there can be no doubt, and that is the general trend of opinion is to regard rheumatism as an infectious disease, and the researches of Fritz Meyer go to confirm that view. The cause is perhaps the diplococcus of which Meyer has spoken, and which he has found on the tonsils of rheumatic individuals when he has failed to find it in the blood or in other parts of the body. He has also found it in the subcutaneous fibrous nodules, of which apparently the English see more than we do in America, bearing out the theory that these are also of an infectious nature and are a manifestation of rheumatism.

Dr. Campbell said that breast-fed infants are more immune to infectious diseases than are other individuals, if I understood him correctly. That is true, but whether or not it is due to the absence of the tonsil, as he also stated, I am rather skeptical. This immunity does not apply to bottle-fed babies, equally without tonsils. In this connection it is interesting to refer to the work of Amberg, of Baltimore, who has tested the opsonic index to staphylococcus of breast-fed babies and also of bottle-fed babies, and has found that, as a rule, the index of breast-fed babies runs higher than does the index of bottle-fed babies, showing, I presume, a greater resistance on the part of such babies to infectious diseases.

Dr. Elmer L. Kenyon:—It seems to me that the specially significant idea involved in the series of papers read to-night is the attempt to substitute facts for what has heretofore been largely speculation. The whole question is one which concerns the relationship of conditions in the upper air and food passages to remote infections. If one searches the literature, he will find a good deal of supposition concerning such a relationship, and he will find also a real absence of proof. It seems fortunate now that we have entered upon a course which promises to result in the accumulation of facts. But the proof of this relationship is certainly difficult. If it were true that remote infection usually followed at once upon an acute infection within the throat, then the establishment of the association would be easier. As a matter of fact, I believe the rule is that remote infection has no immediate reference as to time with local inflammation. A number of cases have been cited here to-night in which such a relationship has seemed to be immediate. In the effort to accumulate the facts in connection with these cases, it is highly desirable that every instance of apparent certainty in the immediate association of throat inflammation with remote infection should be put into print in order that an accumulation of proof may go on. On the whole, however, as I see it, for actual proof we will have to depend on statistics. This is unfortunate because statistics are hard to manage.

Speaking of Dr. Ingals' tonsillitis cases, they are impressive; yet one would not be holding his mind open to scientific frankness if he did not realize the serious possibility of error in these statistics. Both in the tonsillitis cases and in the control cases the patients may have been, and indeed to a large extent were, subject to such diseases as tuberculosis of the lungs, pneumonia, bronchitis, syphilis, asthma, hay fever, other inflammations of the throat and nose beside tonsillitis, and to various digestive disturbances, any one of which might have served to produce an atrium for the entrance of the rheumatic infection, because any mucous membrane connected with the outer air is certainly capable of bearing infective germs. So there is a real possibility of error here, and these statistics can not but be viewed in the light of such possibility. Much more evidence must be adduced in order to prove the relationship of acute tonsillitis to rheumatism.

Cases of adenoids, I think, would be peculiarly favorable for such statistical

study. The reason is that a series of cases of adenoids (including also faucial tonsil enlargement) might be found in children in which practically no other disease had been present, or was present, affecting either the skin or mucous membranes. A control series of cases in which children practically free of diseases either of the skin or mucous surfaces connected with the outer air could also be secured. Such cases would be favorable for statistical study in this connection, because less liable to error from other incidental diseases of the mucous membranes.

Realizing that the mucous membranes of the pharynx, as well as the lymphatic tissue of the tonsils might constitute an important source of hematogenic infection from the throat, I set out to attempt to formulate a series of statistical cases. I took out of Dr. Ingals' large store 27 records of cases of pharyngitis and rhinitis; I included very carefully only those cases in which the tonsils were clearly stated to be normal. I excluded all cases in which the patient had had any disease whatsoever, excepting the early diseases of childhood; the only exception to this was that one or two cases of inflammation of the ear were included. Out of these 27 cases there were seven instances of rheumatism of one form or another; that is 26½ per cent. While this small list of cases can mean nothing accurate of itself, yet it tends to confirm the possibility of error in Dr. Ingals' statistics and to prove that rheumatic infection may enter through inflamed mucous membrane. It is possible that pharyngeal inflammation is nearly or even quite as important as tonsillar inflammation in its liability to be the source of hematogenic infection.

Dr. William L. Ballenger:—The trend of opinion is that the tonsils are a source of infection not only for tuberculosis, but for rheumatism and many other diseases, and, being a source of infection, the question naturally arises, What can be done to prevent the absorption of infective material? In other words, shall we be content with the partial removal of the tonsils or a complete removal of them?

Dr. Robertson found in his tubercular cases a lesion at the bottom of the crypts. He said, also, that he found the crypts very often extended to the tonsillar capsule, the outer wall. I have removed many hundreds of tonsils with the capsule intact, and have examined every one of them with a probe, and have found few instances in which the crypts did not extend to or very near to the capsule. It is rare, indeed, that a crypt does not extend to the capsule or the entire depth of the tonsil. If we want to remove the source of infection, the atrium of infection in these cases, we should, therefore, remove the tonsil to the depth of the crypts, and the easiest and most certain way to do it is to remove the tonsil with its capsule intact.

As to the advisability of operating in the fall or winter, or to waiting for late spring or summer, Dr. Churchill has said he found in many cases that the children had fever or were subject to cold for some months after operation when the operations were done in the fall and winter. The explanation of that may lie in the fact that the tonsils or adenoids were not completely removed and the atrium of infection, the crypts, still left in the sinus tonsillaris. However, I am not sure that this is the true explanation. If the tonsil is completely removed, this source of danger may be reduced somewhat. Hence, in my opinion, the only operation that is justifiable is complete removal of the tonsil, not necessarily with its capsule intact, but so much of them as to include all crypts, which practically reduces it to the point where we must remove the capsule. I admit that all the essential part of the tonsil can be removed, and still leave the capsule; a safer way, however, is to remove the capsule as well. I can conceive of no serious argument against it, and by so doing we are absolutely sure we have removed the tonsil with its crypts in its entirety. Hence I would leave this suggestion with you, that we should thoroughly remove all tonsil instead of partially removing it.

One of the great surgeons of America recently said the tonsil causes more sickness, suffering and death than the appendix. This being true, the technique

of the tonsil operation is worthy of the most careful and painstaking study. The time must come, and is speedily coming, when the partial removal of the tonsil will be regarded, in most instances, as reprehensible practice.

Dr. Ingals (closing the discussion on his part):—I feel more convinced of the fact than ever that our impressions are not of much value. A good deal that has been said this evening is possibly the result of impression. I admitted in the beginning that my impressions had been wrong, and I question whether some of the impressions of others may not be faulty. I had become impressed with the idea that rheumatism and tonsillitis had either no relation or only a slight relation to each other; but an examination of my records showed there was a good deal more relationship than I thought, and it is possible that some of the impressions that others have had quite firmly fixed will be found to be based on no better evidence than were my own. It has seemed to me that there is very much chance for error in the subject we have been discussing and in the meaning of the term rheumatism. I do not think we are capable of saying what rheumatism is. I should suppose, however, that the gentlemen who treat children are more apt to be right than those of us who treat adults in making an accurate diagnosis of rheumatism and in finding true rheumatic cases. It is possibly true that the various conditions that are called rheumatic do not depend upon a single infectious agent or whatever its course may be, whether it be a micro-organism or a chemical substance, and it appears likely that there is more than one agent or factor that causes the various affections that we call rheumatism.

I was quite surprised at the statement made by one gentleman that there was such a large number of primary cases of tuberculosis of the tonsils. It surely does not accord with my own observations. Therefore, I was somewhat relieved when Dr. Eisendrath said there were only eleven such cases reported. I knew that I had never seen a case that I was sure was primary tuberculosis of the tonsils; but if there are only eleven cases that have been observed anywhere I do not wonder at my not having seen one. Years ago I thought I had for treatment a patient with primary tuberculosis of the tonsil, but later I came to the conclusion that I had been mistaken in my diagnosis. The patient did not die of tuberculosis.

The suggestion that diseased tonsils ought to be removed is very pertinent, provided they are of any considerable size. I have felt that as long as a tonsil is not larger than an almond and shows no active disease, and so long as it does not give the person any inconvenience by becoming inflamed from time to time, we are not justified in recommending its removal. But I do think, whenever a patient has a diseased tonsil that has attained any considerable size, it certainly ought to be removed.

As to the time for the removal of the tonsils, I have not observed any of the indications Dr. Churchill spoke of. He may be correct, and I must confess that I have not seen patients very often after removing their tonsils. Generally, after removing tonsils from children, I see them in a couple of weeks, and perhaps do not see them again during their lifetime, or if I do see them again it is generally for some other trouble. I stated in my paper that in the 100 cases there was only one child under 10 years of age in whom I found tonsillitis. I am not sure whether that was an acute tonsillitis or not, but I believe it was. Considering the fact that I have removed tonsils from hundreds of children, it is surprising that I have only one case of acute tonsillitis in a young child, although I have the records of all the cases that I have treated for over thirty years.

Dr. Robertson (closing the discussion):—There have been more than eleven cases of primary tuberculosis of the tonsil reported up to the present time. Dr. Ingals made a mistake; it is not that there were not more, but there were only eleven cases found postmortem where there was not tuberculosis found in other parts of the body, as pointed out by Dr. Eisendrath. It depends a good deal upon what we call primary tuberculosis. To say that we have primary tuberculosis would indicate that we are unable to find any trace of tuberculosis in any other part of the body and that we can demonstrate this disease in the tonsil by the

microscopic slide after the gland has been removed. That is as near as we can tell primary tuberculosis without a postmortem. If we have a slide showing a broken-down lymph body that shows giant cells and epithelial tissue, it is evidence enough that we have tubercular disease. Of course, there are lots of tonsils which may break down and show giant cells which are not tubercular as in syphilis or chronic granulations.

Secondary tuberculosis will manifest itself as an ulceration of the tonsil.

As regards the size of the tonsils to be removed, that phase of the subject was not touched upon, nor was the method of removal referred to in the paper. I would like to say, however, that any tonsil that is perceptibly enlarged is pathologic and should be removed. There is no more reason why we should keep a diseased tonsil in the throat than a diseased appendix in the abdomen, and if any surgeon should diagnose appendicitis in these days and leave the appendix in the abdominal cavity he would be mobbed. (Laughter.)

Other infections were not touched upon. There are infections which occur by way of the tonsils, and it is absolutely proven in my mind that the tonsil is the first place to be infected, because we can watch the glands beginning to be infected gradually; then we cut the tonsil out and see the infection disappear in retrograde fashion, showing that the tonsil is the focus of infection, and, as Dr. Eisendrath has remarked, in removing the glands of the neck it is necessary to remove the tonsils also. The relation between the two is established and recognized by surgeons.

Regular Meeting, March 27, 1907.

A regular meeting was held March 27, 1907, with the President, Dr. George W. Webster, in the chair. Drs. H. W. Abelmann and Edward H. Ochsner read a joint paper on "The Technic Employed and the Results Obtained in a Case of Acne Varioliformis by the Wright Vaccination Method." The paper was discussed by Drs. John C. Hollister, Adolph Gehrmann, and in closing by the essayists. Dr. Allen B. Kanavel read a paper on "Chronic Suppurative Processes in the Hands," which was illustrated by lantern slides. The paper was discussed by Dr. William Fuller. Dr. George Rubin read a paper entitled "The Influence of Alcohol and Chloroform on Phagocytosis *in Vitro*," which was discussed by Drs. Adolph Gehrmann, M. Milton Portis, Fenton B. Turck, and in closing by the essayist.

DISCUSSION ON THE JOINT PAPER OF DRS. ABELMANN AND OCHSNER.

Dr. John C. Hollister:—There are two or three minor points in connection with the technic to which I should like to call attention. Dr. Abelmann spoke of the use of "U" tubes with which to collect the blood. A very convenient method, one which Wright himself uses, is to use a tube with one end of it drawn out to a fine point, while the other end is curved for about three-quarters of an inch. This gives us a little instrument with which we can stab the finger and, by breaking off both ends, we can conveniently collect the blood. When the clot has been thrown down into the straight end we have all the serum in one instead of two tubes.

Again he spoke of the test-tube being shaken in mixing the salt solution with the blood. Caution should be used in shaking the tube. The cream may easily be "broken up." It is best to invert simply two or three times. Thorough washing of the leucocytes is thus secured. Comparing the emulsions with different shades of barium chlorid solutions to obtain one of the right "thickness" is not as accurate as making a preliminary film, for one can not judge well about the clumping.

There are several questions of more importance than those I have spoken of. As a rule, it is quite necessary to make a culture of vaccine from the individual organism, which is the cause of the individual trouble in the individual patient. In other words, "stock" vaccines, with the exception of the tubercle bacillus and the staphylococcus, are not applicable. The gonococcus probably is to a limited degree; but of that we are not sure. Otherwise they are not applicable. If we have a streptococcus infection, we make a vaccine from the individual organism.

If this is the same case which Dr. Ochsner reported to the Chicago Surgical Society, I would like to bring up a point of the utmost importance. At that meeting I asked Dr. Ochsner what was the dosage of the vaccine given to this patient, and he said it was "the usual dosage of so many parts of a c.c. of a week's old culture of staphylococcus." In order to be accurate in this work, we must have a standard dose just as we have of any drug, but to give, as is done so many times by so many, fractions of a c.c. of a two weeks' culture of staphylococcus or streptococcus is like giving a teaspoonful dose of a drug, irrespective of whether it is a tincture or an extract, in that you have no idea of what your dose is. There are no two-week-old cultures of an organism that have the same number of bacteria in a c.c. The nearest we can come is to count the number of bacteria in a dose, and give a definite number. The virulence of one bacterium may be greater than its fellow next to it. In other words, 200,000,000 would not necessarily give the same dosage as the next 200,000,000 from the same bottle, but this method is as accurate as we can be to-day. The sooner we appreciate this the sooner will we come to an exact method of estimating the dose. If then anybody says he gives a certain amount of a week's old growth of a bacterium, you can criticise it at once, because that is not accurate dosage. There is nothing more inaccurate!

As to the therapy of mixed infections, this brings up the specificity of opsonins. Where a patient has several infections, the question arises whether he has a specific index for each organism. The more experience we have the more we feel he has a specific index, and thus agree with Wright. We have given two cases different vaccines at the same time—the colon, pyocyaneus, staphylococcus and tuberculous—and it does seem that the index of the individual organism varies individually, and one index is not dependent upon another. If there is a dependence, we have not found rules governing the question. We have had several other cases where we have combind two or three vaccines, and we have found there is no relationship between the two. This feature we have not worked out definitely. There are some points in the literature regarding the absolute independence of leucocytosis and the opsonic index. An Englishman comes to the conclusion that there is no relationship between leucocytosis and opsonic index in tuberculosis.

So far as local reactions go, the staphylococcus gives as much local reaction in swelling and tenderness as any of the other vaccines. It seems more so. I do not know why.

I do not quite understand in this case of Dr. Ochsner which vaccine was given, whether it was staphylococcus or the bacillus, or both. The doctor spoke of this index line (referring to diagram) here, with dosage given at the bottom of the line, as being "mostly staphylococcus." Exactly what that means I do not know. I would like to know just where he began the mixed treatment and where he began the staphylococcus individually or with the bacillus.

Dr. Adolph Gehrmann:—I would like to inquire from the writers if from their systematic study of this organism they have determined the name of the species. As I understand it, it resembles the colon bacillus, and I would like to know whether it belonged to that group or not.

Dr. Abelmann (closing the discussion on his part):—With regard to the matter of dosage spoken of by Dr. Hollister, I distinctly stated in my paper that one c.c. spindle contained 600,000,000 cocci, and the dose was regulated from each one of those spindles. In answer to the question of Dr. Gehrmann, its reaction resembled that of the colon bacillus.

Dr. Ochsner (closing the discussion):—I wish to say that in the discussion before the Chicago Surgical Society, referred to by Dr. Hollister, I was not explicit enough in my statement as to the dosage used. Dr. Abelmann counted the number of bacilli in one cubic centimeter of the vaccine and regulated the dose in that manner.

In reference to the question of making the vaccine, I would say that the vaccine was actually made from the staphylococci and bacilli found in the pustules. We found the bacilli and cocci mixed at first, but we soon became aware of the

fact that the bacilli were identical with the ones described by Unna and Gilchrist, while the cocci seemed to be the ordinary staphylococci, but not until about six weeks ago were we able to get a pure culture of the bacilli and then make a pure bacillus vaccine. Up to that time we used a mixed vaccine, which, as a matter of fact, was very largely a coccus vaccine. As a consequence the opsonic index for the cocci went up, as represented in Chart I, and by the end of this time the mixed or cocci infection had practically been cured. As the cocci infection became better, the leucocyte count went down, but not to normal.

Unna, Gilchrist and others had described this bacillus as a pus-forming bacillus, and it may be added that it certainly caused leucocytosis. Chart II shows the change in opsonic index for the bacillus infection. The opsonic index for the bacillus is different from the opsonic index for the coccus. They do not seem to bear any relation to each other whatever. The opsonic index for the coccus has gone up to 1.7, while that of the bacillus stands at .35, so that the statement made by Dr. Hollister that the opsonic index for one micro-organism may not be at all the same as for another micro-organism is clearly demonstrated in this case.

We have used the same method of vaccination in some thirty cases of tuberculosis and in a few other cases, but, as you know, a case of surgical tuberculosis not secondarily infected is practically a self-limiting disease when properly treated, so that it is a little difficult to tell just what part the vaccination treatment has played in the cure of these cases. We can, however, say that the cases of surgical tuberculosis thus treated seem to have improved a little more rapidly than a similar number of cases previously treated without the vaccination treatment.

DISCUSSION ON PAPER OF DR. KNAVEL.

Dr. William Fuller:—We have been delighted with the exhibition of these slides and have been highly entertained by what Dr. Knavel has said about this interesting subject, namely, suppurative processes of the hand. From the demonstration we may learn at least one good lesson, which is this: In practically all cases, if an early and correct differentiation is made in the many forms of panaritia involving the hand, the pus accurately located and immediately and effectively drained, the necessity of subsequently removing bone epiphyses and the laying open of tendon sheaths, as mentioned by the doctor, will rarely be called for. Many cases, however, are not seen early, and others are not correctly understood or diagnosed, leading necessarily to wrong and misapplied surgical means and methods, which are responsible for results greatly disappointing to the surgeon as well as the patient.

It is my belief that the best results are obtainable in many severe phlegmons of the hand by looking for and draining from the palmar surface, regardless of the site of infection. Admitting that palmar scars are more or less objectionable, I believe that in a large majority of the cases, notwithstanding the extreme swelling on the back of the hand, that a careful search will reveal the true location of pus in the palmar structures, into which incisions must be made if the surgical measures are to avail much. The swelling which is often more pronounced on the dorsal aspect of the hand and finger in extensive suppurations are very misleading as regards the real seat of the trouble unless the anatomy of the hand is well understood. The very loose connective tissue to be found here leads to early and conspicuous swellings, and efforts to drain an extensive suppuration of the hand by incising in this area alone can rarely be anything but disappointing.

The second valuable point which I would like to emphasize is the circulation which should always be borne in mind when incisions in close proximity to important vessels are required for drainage, or when a destructive inflammatory process is going on here. It is a fact known to all surgeons that ligation in continuity of the radial or ulnar artery will not control hemorrhage from either the superficial or deep palmer arch, owing to the free communication between the arches. Indeed, ligation of both the radial and ulnar arteries will not stop bleeding from the palmer arches, owing to the free anastomosis between the latter vessels and the interosseous vessels, and these, in turn, with the carpal arches.

It seems to me, therefore, that the control of hemorrhage from the palmar arches from whatever cause, whether it be from accidents in attempts at draining deep foci of pus in the palm or from inflammatory or destructive processes, could be most satisfactorily accomplished by the use of Esmarch's bandage, which, by rendering the field bloodless, enables the surgeon in directly ligating the bleeding point, and insures much greater possibilities of carrying out at once the other surgical indications.

DISCUSSION ON THE PAPER OF DR. RUBIN.

Dr. Adolph Gehrmann:—This is a very interesting paper. The writer has gone a little further than those who conducted a large number of experiments which were popular two or three years ago. By using hanging-drop specimens all manner of materials which were detrimental to micro-organismal life were tested and the limits of strength determined. Moulds, various amebæ and infusoria were used in the experiments, arranging them in hanging drops and observing whether the motility or growth would occur or continue to take place in solutions of various strengths. Dr. Rubin has extended his experiments a little further in showing a certain kind of activity in organisms rather than simply the growth of the organisms themselves.

There is one point of interest from a practical standpoint, and that is the bearing that this has upon the value of the alcohol treatment for infections which has been popular in some places. European literature particularly advocates the use of alcohol dressings, etc. The question has arisen in that connection whether it is some increase of phagocytic action that the alcohol dressings induce or whether it is the circulatory change. According to these experiments, it is more probably due to circulatory changes rather than to a change in the activity of the leucocyte.

Dr. M. Milton Portis:—This paper, which confirms some of the work in animals carried out by the same author in 1904, is of far-reaching import. We have known in the past that cold predisposed animals to infection. We have known that chronic alcoholism has laid our patients open to infections. We have noticed unfortunately that patients after taking an anesthetic develop pneumonia quickly, and in all this we have covered our ignorance over with the term "predisposition." I think this work of Dr. Rubin, as well as that of others, has given us a scientific basis for such observations.

Some years ago Cantacuzéne experimented with opium and found that animals under the influence of this drug took typhoid infections and died, whereas guinea-pigs, not so treated, resisted the infection. Bessedka used trisulphide of arsenic and demonstrated infections by his experiments which were more serious when the animals were injected thus. We might mention other experiments and authors; those particularly quoted by the doctor in his early paper who came to similar conclusions with regard to the injection of other substances. Ether, alcohol and chloral were commonly used. There does not seem to be any doubt from the work done on animals and in the test-tube that we have a scientific basis for predisposition, as we called it before, and it would seem right that we should give some serious attention and study experimentally and clinically to the dangers of the use of our anesthetics; that we should study our patients who take particular drugs, particularly the chronic alcoholic cases, etc., and attempt in our therapy by eliminating, controlling or neutralizing, or whatever you may please to call it, to get better results than in the past.

Concerning the theory of the action of these substances, I am not favorably impressed with the theory of Moore and Roaf, that there is a combination of the cell proteids with the ether or chloroform, or whatever may be used, to form an unstable compound, as the doctor suggests, but I should rather say, and it would be more strictly modern, that the phenomenon has something to do with the opsonins, and I would suggest that the doctor try the opsonic index in such cases to see how it varies with these various injections; whether the drug has a retarding effect upon the opsonin or enters into combination with the opsonins. The work of Wright should throw some light on this chapter.

Dr. Fenton B. Turck:—I am very much interested in this subject. The paper is suggestive and contains many valuable points in modernizing the previous work that has been done on this line. A report of my experiments, with reference to my previous work, was presented before this Society in 1903. The work represented a large number of experiments on animals with chloroform and ether, both having been administered from one to six hours, and then examining the sera. We found in our experiments there was a great difference in the precipitins and agglutinins, and we found the hemolysins were considerably developed, so that the blood-serum lost its protective power. We digested portions of the tissue in the serum of the animals thus experimented upon and found that autolysis took place inside of six hours. If we added a ferment it would be digested in two or three hours. We demonstrated the effect of the anesthetics upon the serum as well as on the cells. To determine the points of excretion and effects upon cells I dissected off the mucosa of the stomach and intestines and distilled the material and obtained chloroform from the stomach and intestines. First, I plugged the esophagus, so that no chloroform could get into the stomach through the esophagus, and we found that a large amount of chloroform was excreted by the stomach and intestine, and ether the same way. This showed the saturation and method of excretion, which produced a destructive effect also on the gland cells. It is interesting to notice the interference with what we may term the protective power of the serum. As my work was in line with this discussion, I thought I would take this occasion to mention the interesting points that I have been working on for many years.

Dr. Rubin (closing the discussion):—Dr. Hektoen and Dr. Ruediger experimented in a similar manner with different salts and formalin, and they have practically come to the same conclusions I have in regard to phagocytosis *in vitro*.

I am very glad to have had the experiments described by Dr. Turck, as they agree with the conclusions I have drawn, and they also agree with the work of Metchnikoff and others.

THE INFLUENCE OF ALCOHOL AND CHLOROFORM ON PHAGOCYTOSIS *IN VITRO*.*

GEORGE RUBIN, M.D.

ABSTRACT.

The author shows by his experiments how alcohol and chloroform, when added to defibrinated blood containing leucocytes, impair the phagocytic functions of the latter when mixed with various bacteria. Phagocytosis may be entirely suspended when the dose of the narcotic reaches a certain point. He refers to his previous experiments *in vivo* (*Journal of Infectious Diseases*, May 30, 1904), which correspond very well with the present experiments *in vitro*. The author believes that the fixed phagocytes (nerve cells, epithelial cells and others) are similarly affected. He agrees with the conclusions of Roaf and Moore (Proceedings Royal Soc., vol. lxxiii), who have experimented extensively with various anesthetics and protoplasm. They found that the agents decrease cell activity and that when the narcotics are pushed to a certain degree all signs of life are obliterated.

Regular Meeting, April 3, 1907.

A regular meeting was held April 3, 1907, with the President, Dr. George W. Webster, in the chair. Symposium on gastrointestinal diseases: "The Close Relationship of the Stomach and Intestine to Other Organs," by Dr. Fenton B. Turck; "The Eye in Its Relation to the Stomach and Intestine," by Dr. Casey A. Wood; "The Mouth, Nose and Throat in Their Relations to the Stomach and Intestines," by Dr. Otto J. Stein; "Metabolism as It Is Affected by Disorders of the Stomach and Intestine," by Dr. Ralph W. Webster. The symposium was discussed by Drs. Julius Grinker, W. F. Coleman, A. L. Deriger, Carlos Montezuma, J. Holinger, and the discussion closed by Dr. Turck. Adjourned.

* From the Pathological Laboratory, Rush Medical College, University of Chicago.

DISCUSSION OF THE SYMPOSIUM ON GASTROINTESTINAL DISEASES.

Dr. Julius Grinker:—In view of the new trend in neurology and medicine which seeks to explain symptoms by toxemia emanating from gastrointestinal fermentation, this discussion is to be welcomed. It is regretable that not more of the fundamental experimental work is being done by our members. However, it is well to have made a beginning. Neurologists who have long ago recognized the great value of proper feeding in nervous diseases are particularly interested in the labors of the workers on gastrointestinal and metabolic disorders. We hope that some day physiological chemistry will shed light on the origin of many of the hitherto obscure neuroses and psychoses.

Dr. W. F. Coleman:—Dr. Wood has so well delineated the effect of stomachic and intestinal disorders on the eye that I can not add anything more to that phase of the subject. It is quite appropriate, however, to consider the effect of eye conditions upon the stomach. I believe that a pair of spectacles will not cure snake bite or appendicitis, but that glasses may relieve certain stomach conditions there can be no question. For instance, it is not unusual for the oculist and others who are observant to find quite a number of people who are unable to read for any length of time without nausea and occasionally vomiting. But there is one important condition of which we are told by the neurologist there is no known pathology, that treatment is symptomatic, and that all treatment recommended for it from spectacles to quack nostrums is futile, and that is migraine hemicrania, blind headache, sick headache or scintillating scotoma. The time is too limited to go into details, but I think the delineation of one typical case will show the relationship between the eye and the stomach symptoms. Before citing this case I think the influence of eye-strain, due to errors of refraction chiefly, and occasionally muscular imbalance, upon the nervous system is admitted in these latter days.

Some fifteen years ago an oculist by the name of Sinclair (Chicago) wrote an able paper on ocular headache. A prominent neurologist denied that the eye was responsible for headache, maintaining the cause was neurasthenia and that the eye-strain had nothing especially to do with it. That same oculist to-day says, in a published article, that 80 per cent. of all headaches he has to deal with are due to eye-strain. So far as my own statistics go, in three or four hundred cases, after sending out inquiries two to three years following the fitting of glasses, I found that 80 per cent. were completely relieved of their headaches, 10 per cent. incompletely, and 10 per cent. not improved. I think we can reasonably say that America is the neurasthenic country of the world, and that Chicago is the head center. Admitting that neurasthenia is the basis of so much headache, if we still further admit that the exciting cause may come from eye-strain, we have a good working hypothesis, if we can relieve the headache by directing attention to the treatment of the eyes. Let me cite a case.

A patient, a merchant by occupation, 45 years of age, consulted me in April, 1893, stating that he had sick headache during his whole lifetime. It occurred every two weeks to two months; it was accompanied by pain in his eyes, and continued from six to eight hours, followed by vomiting, which continued for two or three hours. There was no scintillating scotoma. At first the headache was generalized, but in recent years unilateral, on one side or the other. With general headache, vomiting occurred two or three hours, with unilateral three to four later. Heredity in his case was marked, in that both his mother, sister and brother suffered all their lives from similar headaches. The headache was so violent that it was necessary for him to go to bed and remain there for one or two days after the onset of the attack. He was wearing a pair of glasses, mixed astigmatic for the right eye and simple myopic astigmatic for the left eye. It should have been reversed. He had worn the glasses for nine years with perfect comfort, so far as his eyes were concerned. There was no muscular imbalance, so this case was not ophthalmoplegic. On examination, I found he required a change of ten degrees in the axis of the cylinder in the right eye and a difference of five degrees in the left eye, finding the right eye with simple myopic astig-

matism and the left eye with mixed astigmatism. I put on correction, and on account of his age used a spherical glass of one D. for reading and instructed him to use distant glasses constantly. He returned to me in one month from this time, saying he had one slight headache, and two years later he reported that he had not had a single attack since the one mentioned above.

Dr. A. L. Derdiger:—The remarks of the last speaker have prompted me to say a few words, owing to my interest in ophthalmology. I have had a great many years' experience in the practice of my profession, and have given a good deal of attention to eye-strain, and I have found that there are a large number of people who suffered from chronic dyspepsia who have been relieved by properly fitted glasses. The time at my disposal this evening is too short to detail many cases. I was particularly interested in the papers read both by Dr. Turck and Dr. Casey Wood. It seemed to me that very little was said with reference to the percentage of errors of refraction that are uncorrected as a cause of stomach trouble. I was particularly interested in that phase of the subject, for I have been collecting statistics along this line for quite a while. I have been reading in the last few years the interesting articles of Dr. Gould, of Philadelphia, who has ably discussed the influence of eye-strain in causing headaches and other discomforts.

A prominent business man of this city consulted me a year ago with reference to his eyes. I examined them and found he had an error of refraction, an oblique mixed astigmatism in the right eye and an oblique simple hypermetropic astigmatism in the left. He complained of biliousness, and he was unable to determine whether the stomach trouble was due to the eye trouble or eye-strain, or *vice versa*. Not assuming too much responsibility, I said we will determine this by correcting the error of refraction fully and examining the muscles of the eye to see if, after correcting the error of refraction, we might also relieve the spasm of accommodation and the stomach trouble. Of course, I did not say that the condition of the eyes caused the stomach trouble. To my surprise, however, the patient wore his glasses for about eight days and said that he had not had an attack of biliousness since one year ago, when he began to wear these glasses, which was something unusual, because he had them regularly and frequently before. This is one example of many as to what is being done along this line.

Dr. Coleman has alluded to the fact that some years ago a noted oculist disbelieved the theory that ocular affections caused nervous trouble or stomach trouble, and that now that same oculist was a great believer in the theory of eye-strain or ocular affections causing nervous diseases. In this connection I wish to say that in June, 1904, I read a paper, "Nervous Diseases and Eye-strain," before this Society, which was discussed by Dr. Grinker, who maintained that migraine had nothing whatever to do with eye-strain, and that migraine could not be cured by properly fitting glasses. At that time I cited cases to show that relief could be afforded in this way, and, if time permitted, I could report a number of cases this evening to that effect.

Following is a brief description of the case I referred to:

The symptoms of which Mr. W. F., aged 46 years, complained when he consulted me, about one year ago, persisted, with the exception to be noted, since 1900.

They were pains in the eyes and a drowsy sensation after reading a short while, a smarting, burning feeling when looking at pictures; gastric symptoms were pain in the abdomen, constipation, eructations, sour stomach. The patient felt depressed and despondent at times—he would give abrupt answers to civil questions, which was not in keeping with one of our foremost business men of Chicago.

He would have sleepless nights for a week at a time. After following without relief the treatment of an eminent practitioner, the patient took a trip to Europe, visiting a famous mineral springs. During his sojourn he was apparently feeling well, but upon his return to his work his trouble began as heretofore. A specialist in diseases of the stomach was now consulted. Hyperchlorhydria was found, the usual treatment was given and strictly adhered to by the patient for

over one year. These manipulations gave relief at first, but after a time the symptoms returned. The family physician took charge of this case now, and after a thorough physical examination the patient was put under treatment for some time, when this practitioner advised the examination of the eyes by an oculist of twenty-five years' experience and a professor of ophthalmology in a post-graduate college. The patient told me that this oculist dilated his pupils, fitted two pairs of glasses (for reading and distant use) and treated the muscles of his eyes, with prism exercise three or four times a week, fifteen to twenty minutes each time for five months in succession, during which time the patient derived considerable benefit for the eyes and stomach, but as soon as the treatment was discontinued the gastric and eye symptoms returned. A few months later the patient presented himself at my office for consultation, saying that he wanted to know if it was necessary to resume the rhythmic exercise with the prisms in order to obtain relief for his intense suffering with his eyes and bilious attacks. Examination with his glasses on was as follows: Distant glasses—Right eye, + 75, axis 90, vision equaled 20/25; left eye, + 50, axis 90, vision equaled 20/35. Reading glasses were: Right eye, + 1.00 + 75, axis 90; left eye, + 1.25 + 50, axis 90. I found upon examining the eyes the first visit without a mydriatic right eye vision equal 20/45, with + .50, axis 90, vision equal 20/35; left eye, vision equal 20/30 with + 50 + 75, axis 90, vision equal 20/30. Second visit, same amount of defect was present, together with 1° of left hyperphoria and 2° of exophoria. Third visit, adduction, 35°; abduction, 8°; sursumduction, 5°. The above examinations were repeated six times during one week, the findings being different at each examination. On the seventh day hematropin was used, which gave the following results: Right eye vision equal 20/60, with + 50 cyl. axis 105 combined with — 50 cyl., axis 15; V. = 20/20. O. S. + 1.00 cyl. axis 75, V. = 20/20, or normal vision. The patient was ordered to call the next day, when the subjective and objective tests—that is, with trial lenses and ophthalmoscope and retinoscope—gave the same results as the day before. Two more tests being made two days after the use of the mydriatic. All the muscle tests were made again, which showed a considerable decrease in the muscular insufficiency and in the spasm of accommodation which had previously existed. Ordered for reading: O. D. + 75 + 50, axis 105. O. S. + 1.25 + 1.00, axis 75. Yaeger's No. 60 finest print could be read with ease. Books and newspapers could be read for hours without distress to the eyes or stomach. Eight days after, the patient wore these glasses the stomach and eye trouble disappeared and, though over one year has elapsed, there has not been a return of the disturbance.

Conclusions.—After comparison of the family history and physical and mental conditions in many cases treated, many of whom had previously been under some form of treatment, I venture the following propositions:

First.—Many cases treated by the neurologist, gastrologist, gynecologist, surgeon and general practitioner may be relieved temporarily, but not until the existing eye-strain is relieved does a permanent cure take place.

Second.—The reason of failure by some oculists to cure these conditions is due to the fact of either, first, too great haste; second, carelessness; third, unwillingness of the patient to submit to more than a few short examinations, and, last but not least, to the financial question, as a comparison of figures will show in this case:

Time spent for previous general treatment, six years, cost of same, $4,800; time spent at sanitariums and travel, eighteen months, cost of same, $2,200; time spent with previous oculist, five months, twenty-minute visits, three times each week, expense of same, $250; total amount paid out, $7,250; total amount of time spent on the case by myself; fourteen visits of two hours each, at a cost of $5 each, $70; two pairs of glasses, $10; total expense, $80.

It is no wonder that the public is discouraged with medical treatment and resort to nostrums and all sort of faith cures.

Dr. Carlos Montezuma:—I do not think Professor Turck forgot the nervous

system in making his remarks. If we study carefully the internal organs, we will find that they have their limits of functional area within which to act.

I wish to say a few words with regard to the mechanical relations of the stomach and intestines to the different organs. From birth until we reach 10 or 12 years of age, our nervous systems are supposed to be quite normal. The nervous system is normal, or perhaps supernormal; sometimes it is governed by our habits. That being the case, I believe habit is an important factor, in that it produces a mechanical disturbance and alters the nervous equilibrium. Therefore, habit probably comes in first, so producing distention of the stomach, distention of the bowels; and with this distention there is impingement upon the blood vessels and nerves; the functional metabolism throughout the body is impeded by these abnormal mechanical conditions. The feeling of fulness or perhaps pain in the stomach came under the law of distension—occlusion of Nature's channel of elimination—which gives us innumerable symptoms. We speak of microorganisms as causing gastrointestinal diseases, but we forget the law of mechanophysiology, and that is the one point I particularly wish to emphasize.

Dr. J. Holinger:—Dr. Grinker touched a question which arises every day in the treatment of diseases of the pharynx. It is the neurologists who try to attribute to the nervous system diseases which have a local finding. They diagnose, for example, hysteria or neurasthenia in patients who complain of foreign body in the throat, and on examination we find the whole naso-pharynx and pharynx full of granulations and parched. The globus hystericus, or the feeling of a foreign body in the throat ought not to be ascribed to nervous disease when all objective signs of pharyngitis are present. As a matter of fact, we know that the feeling of a foreign body in the throat is a part and parcel of chronic and acute inflammations of the throat, just as the feeling of sand in the eye is a part and parcel of a conjunctivitis. It was my experience that when I send such patients to have their stomachs examined they return with the report that there is nothing the matter with the stomach. This has happened to me repeatedly. Still, the treatment of a chronic pharyngitis is not likely to afford complete relief unless we pay some attention to the stomach. In these conditions I never fail to carefully inquire into the diet of the patient and his habits, his method of eating and working, particularly working overtime and allowing his mealtime to pass without satisfying the normal appetite, and perhaps later partaking of a hasty and hearty meal. In other cases a few drops of muriatic acid serve the purpose. Many cases of chronic pharyngitis, with distinct local findings, are wrongly ascribed to nervous disorders and will give prompt results by local treatment combined with a careful regulation of the diet and digestion.

Dr. Turck (closing the discussion):—The object of this symposium was to bring together men with scientific experience, who have made investigations, and who are, therefore, capable of thoroughly taking up each subject, irrespective of their own specialty, and of presenting before the society the entire subject and bringing up to date our present knowledge of the relation of the gastrointestinal tract to other organs.

Dr. Wood, in discussing the subject of the eye in its relation to the stomach and intestines, presented the subject very clearly and showed some interesting relations of great importance, and Dr. Stein discussed in an admirable way the mouth, nose and throat in their relations to the stomach and intestine. All of the gentlemen who have taken part in the symposium have done so without going into theoretical discussions of what they believe or think. They have presented their observations based on personal experience, and added what they gleaned from the literature. Dr. Webster has given you an able paper in which he has presented the general metabolism as it is affected by the disorders of the stomach and intestines, bringing the literature of the subject up to the present time. It is only when we undertake experimental research, together with experience derived from bedside operations, that we are enabled to place these subjects on a scientific basis, and thus outgrow pure empiricism, and that was the object of the symposium in bringing out such a discussion.

There is a relation between the nervous system and intestines which we do not at present clearly understand. The psychic effects are beyond our knowledge. We have no right to assume a certain unknown relationship in the causation of the diseases we have had under discussion. Undoubtedly the nervous system bears close relation to the other organs in the production of disease, but we have not had as yet a clear or definite understanding derived from direct experimental knowledge so as to be positive in determining the direct relationship.

Pawlow resected both vagi and noted but slight changes from the normal digestion. Duccheski of Rome resected both vagi and dissected out of all the nerve supply to the stomach, and digestion appeared undisturbed. In the March issue of *Surgery, Gynecology and Obstetrics*, there appears an interesting article by Dr. Leo Buerger and Dr. J. W. Churchman, in which it is stated that in Professor Garré's clinic they dissected the entire mesenteric ganglion without affecting the stomach or the intestines. And so in our experimental work we have found that the nervous system apparently does not have the influence we used to think it had. On the other hand, there is a good deal of empirical knowledge as to the psychical effect on the digestive apparatus. But it is our object to place these subjects on a scientific basis and to present, so far as we are able, the facts connected with them. In this connection I want to point out the fact that many of the diseases we used to think were of nervous origin are not now so considered.

But we are anxious to know more about the nervous system and nervous diseases, so as to be able to raise the standard of our knowledge, and in proportion as we make scientific advances in other departments of medicine and surgery so will the nervous system be raised to a higher level of knowledge. We can only do this by experimental research work and by reporting our observations and experiences from time to time. I wish to say that we are not here for the purpose of opposing each other, but to raise the standard of medicine and surgery to a higher scientific level, in order that we may be able to do more for humanity.

EDGAR COUNTY.

The Edgar County Medical Society held its annual meeting at the Carnegie Library, April 24, 2 p. m. The society was called to order by the president, Dr. Jones. Members present: Drs. Hunt, TenBrooke, E. O. and C. S. Laughlin of Clinton, McCord, Baum, Lycan, Roberts, Fuller, Haughter and Buchanan of Paris, Kerrick of Chrisman, Jones of Redmon and Evinger of Nevins. The following officers were elected for the ensuing year: E. O. Laughlin, president; C. L. Kerrick, vice-president; W. A. Buchanan, secretary, and George H. Hunt, treasurer.

It was moved and carried that the annual dues be increased from $2.50 to $3.00. A motion was made and carried that the president, secretary and treasurer act as executive committee. A vote of thanks was given to Hon. Clay L. Ganner for his courteous reply and promise to support the interests of the profession in house bills Nos. 66, 318 and 319.

Dr. Fuller read an interesting paper on the subject "Tonsils and Adenoids, Indications for the Removal, Repeated Attacks of Inflammation, Rheumatism, General Septic Condition, Primary Tuberculosis, Chorea, General Catarrhal Condition," etc. In fact, the writer recommended the removal of all tonsils, both large and small, that had been subjected to repeated attacks of inflammation. The paper was followed by an animated discussion by all members present, after which the society adjourned until the next regular meeting in July.

HANCOCK COUNTY.

The Hancock County Medical Society met in the north jury room at 1:00 p. m. The society was called to order by S. M. Poor, president. Members present: S. M. Poor, J. H. Callahan, J. T. Jenkins, R. R. Loomis, L. D. McClure, G. E.

Pumphrey, C. A. Runyon, W. P. Frazier, R. R. Roberts, Wm. Rankin, Wm. Blender, Earl Cooper, R. E. Valentine, L. C. Taylor, D. W. Humphrey, E. M. Ransom, L. N. Tate, A. L. Colburn, H. H. Sherwood, J. E. Camp, C. L. Ferris, also Charles Wilkins of Nauvoo, B. Keely of Ferris, G. W. Jones of Keokuk, Iowa, and J. H. Coulter, president of the Lee County Medical Society, State of Iowa. R. R. Roberts read a paper on "Medical Ethics." Discussed by J. E. Camp. E. M. Hanson read a paper on "Amblyopia." Discussed by G. W. Jones. Senator O. F. Berry was present by invitation and made a talk on the prospective legislation at present session of legislature and stated that he would be glad to learn of the sentiment of the society on these matters. By motion the president appointed a committee on resolutions, consisting of Sherwood, Pumphrey and Ferris. L. N. Tate read a paper on "Influenza." Discussion by Hanson, Runyon and Valentine followed. Chas. Wilkens of Nauvoo and B. Kelley of Ferris were elected to membership. Election of officers followed: President, R. R. Roberts; vice-president, G. E. Pumphrey; treasurer, L. D. McClure; secretary, C. L. Ferris; censor, S. M. Poor; delegate, J. T. Jenkins. The committee reported a resolution recommending the purchase by the state of the College of Physicians and Surgeons in Chicago; recommending appropriations for the epileptic and tuberculosis colonies; opposing the proposed amendment to the law governing the practice of osteopathy in the State; opposing the anti-vivisection bill; opposing the proposed change of the law regulating patent medicine vendors. Resolutions were adopted and it was voted that a copy of the resolutions be sent to Senator Berry and Representatives Harris, Jewell and Califf.

JACKSON COUNTY.

The regular monthly meeting of Jackson County Medical Society was held April 18, 1907, in the Logan House Parlors at 2 p. m. The following members responded to the roll call: Drs. McAnally, Mitchell, Keesee, Davis, Ingram, Molz, J. C. Atherton, Roth, Tweedy, Hosstman, Grizzell and Foster. The society appeared before the Board of Supervisors of Jackson County to advocate the abolishing of the office of county smallpox and pauper physician. By a vote of 10 to 7 the pauper practice of the county was thrown upon each township. No papers were read and no clinics held on account of the late hour. Dr. J. Keesee was elected delegate to the state meeting and Dr. McNally as alternate.

LIVINGSTON COUNTY.

The thirteenth semi-annual meeting of the Livingston County Medical Society was held in Pontiac May 2. Thirty-five members were present and the meeting was a success in every way. J. B. Baker of Pontiac was elected president; L. R. Allen of Forrest, vice-president, and John Ross of Pontiac, secretary. J. G. Barnhizer of Forrest and David Littlejohn of Pontiac were elected to membership. W. L. Rabe of Dwight was reinstated in the society.

The program was one of the best ever presented to the society, and every subject was fully discussed. Fractures, J. J. Pearson, Pontiac; Asepsis in the Obstetric Work of the General Practitioner. Thos. Bath, Bloomington; The Duty of the Physician to Himself and to His Fellowmen, J. A. Colbourne, Pontiac; Two Cases of Traumatic Tetanus in the Same Family, C. C. Hunt, Dixon; President's Annual Address, G. C. Lewis, Fairbury. J. D. Scouller of Pontiac was elected the delegate to the meeting of the state society. The physicians of Forrest extended an invitation to the society to meet with them in November and the society accepted the invitation.

MACOUPIN COUNTY.

The Macoupin County Medical Society held its annual meeting and election of officers at Carlinville in the Masonic Reading Room April 23. Those present were R.

S. Cowan, R. J. Mitchell, A. H. Simmons, J. H. Riffey, Gird, D. A. Morgan, Nilwood, J. S. Collins, S. H. Carr, J. P. Denby, C. J. C. Fischer, J. P. Matthews, J. Palmer, Matthews, J. H. Davis, F. M. Wood, Carlinville, J. N. English, Charles D. King and Dr. Gross of Gillespie, H. A. Pattison of Benld and George Cowan of Granite City. Dr. F. A. Renner of Benld was proposed for membership by Dr. Pattison and was unanimously elected. The treasurer's report shows $1 received and a bill for printing of $1.50 allowed since last report.

The morning session was devoted to reports of cases. Dr. Matthews reported a case of death in a woman five months pregnant. Dr. Gross reported a case of recurrent German measles with faucial inflammation and a false membrane resembling the angina of diphtheria with a rash on the body accompanied by fever. Dr. Collins reported a case of persistent vomiting in a pregnant woman, premature labor with death of mother and child. There were symptoms of acute gastritis with congestion of the portal circulation and hematemesis. Dr. Denby reported cases of obstruction of gall duct, operation established drainage, postmortem revealed cancer of the pancreas, with suppression of bile.

Dr. Denby reported a postmortem on a case with a dilated right heart where the clinical symptoms were of angina pectoris and emphysema and severe asthmatic attacks. In this case there was albuminuria with general sclerosis of the arteries. Dr. Fisher reported a case of strangulated hernia relieved by a radical operation.

The censors reported Carlinville the next place of meeting. The following officers were elected: President, Dr. Gross of Gillespie; vice-president, Dr. J. B. Denby; secretary-treasurer, Dr. J. P. Palmer; committee on medical defense, Dr. J. S. Collins; program, Dr. F. A. Renner, to choose his own subject; E. K. Lockwood and Dr. Aubuschon, continued.

At the afternoon session our district councilor, Carl E. Black, addressed us and read a paper on carcinoma uteri. He illustrated his remarks by some interesting pathologic specimens. Motion made by Dr. Matthews that the paper of Dr. Black be received with the thanks of the society. Dr. Kreider then gave his address on "Congenital Fistula of the Ano Sacral Region," which was received with the thanks of the society. The discussion of these papers then followed. Pending the report of the Board of Censors, the members of the Macoupin County Board of Pension Examiners present reported a case of congenital fistula of the ano sacral region which came before them for examination in a soldier who had had typhoid fever.

MENARD COUNTY.

The banquet of the Menard County Medical Society at the Smoot Hotel, May 2, 1907, in honor of Dr. J. K. Newcomer, was a grand and unprecedented success. Dr. A. L. Brittin of Athens acted as toastmaster. Several toasts were responded to by physicians from various parts of the county. The purpose of the banquet was fittingly expressed in the following words which were printed on the front of the menu card: "A Banquet in Honor of Dr. J. K. Newcomer, in Recognition of His Loyal and Devoted Services in the Medical Profession in Menard County for More than Forty Years."

The first toast of the evening was responded to by Dr. J. F. Percy, Galesburg, President of the Illinois State Medical Society, on "The Medical Profession of Illinois, Its Past, Its Present, Its Future, Its Duties and Its Responsibilities." In an eloquent and forceful manner Dr. W. A. Mudd of Athens responded to the toast, "The Medical Profession of Menard County." Dr. Mudd went into the history of the profession and interspersed his address with many interesting stories and facts. "The General Practitioner" was responded to by Dr. J. D. Whitley of Petersburg. Mrs. A. L. Brittin of Athens sang a solo. Dr. B. W. Hole of Tallula spoke on "New York and Baltimore as Centers of Medical Teaching." "Ideals in Medicine" was the subject of the toast of Dr. J. W. Newcomer of Petersburg, in whose honor the banquet was given.

In a most eloquent and interesting manner Dr. J. P. Meyers, the oldest physician of the county, responded to the toast, "Our Honored Guest, J. W. Newcomer, as I Have Known Him for More than One-third of a Century." This address was listened to with the utmost attention by every one present, and the speaker is to be congratulated upon the masterful manner in which he handled his subject.

Impromptu remarks were made by Dr. S. T. Hurst of Greenview. The Rev. John Boden, pastor of the Presbyterian Church of Petersburg, delivered the invocation. Music was furnished during the banquet by the Old Salem Orchestra.

Those present were: Drs. Hurst, Hammil and Eidredge of Greenview, Drs. Mudd, Hill and Brittin of Athens, Dr. Meckinson of Oakford, Drs. Taylor, Hole and McIntosh of Tallula, Dr. T. C. Hill of Sweetwater, Drs. Newcomer, Myers, Whitley, Chenery and Rotherl of Petersburg, Dr. J. C. Fisher, formerly of Petersburg, now of Decatur. The wives of the doctors were present to enjoy the festivities.

MORGAN COUNTY.

The Morgan County Medical Society held its regular meeting at the Library in Jacksonville April 11, 1907, at 8 p. m. President Dr. E. L. Crouch in the chair. Eleven members present. The minutes of the last meeting were read and approved. The applications of Drs. C. W. Fortune and E. W. Gardner of Literberry for membership in the Morgan County Society were read. Dr. Hairgrove cited a case of abscess of brain with specimen. The paper of the evening was by Dr. Hardesty on "Eclampsia."

Dr. Black, as chairman of the committee which was appointed to draw up a new and better health ordinance for the city of Jacksonville, made a report of the committee's work. Papers for May 9 are: Dr. Byron Gailey, on "Ear and Nose Complications of Influenza;" Dr. Cole, "The Pulmonary Complications of Influenza."

ALLEN M. KING, Secretary.

CASE OF ABSCESS OF BRAIN.

JOHN W. HAIRGROVE, M.D.

JACKSONVILLE.

C. W. C., age 43, railroad section foreman, height 5 ft. 9 in., weight 160. Family history negative.

Personal History.—Always used to hard labor. Married and has four healthy children. Bowels are slightly constipated. Appetite good. Denies venereal disease. No trace of syphilis.

I was first called to see him at his home on February 24, where I found him confined to his bed, suffering from an intense headache which was limited to the right temporal and supra-orbital region. He stated that he had the headache upon wakening in the morning. There was no fever and the pulse rate was 58. He stated at this time that he had been subject to severe headaches as long as he could remember and had been treated by many doctors therefor, but of late he thought they were becoming more frequent and severe. He had not, however, lost any time from his work. In addition to the above statement, he said that he always slept well at night and would often go to sleep when sitting down during labor hours, would go to sleep any time or anywhere, but was easily aroused. Some doctors had told him that he had "the sleeping disease." He was given at this time a tablet of acetanilid, caffein and sod. bicarb. and asked to report their effect. I was not again consulted until March 13, seventeen days from my first visit. He came to my office, being obliged to leave his work for the first time on account of the severe headache. While waiting for me he fell asleep in his chair, but was aroused with slight difficulty to take his turn in the office. He now stated that he had received considerable relief from the first prescription, but that it had finally failed to alleviate the frequently recurring attacks. A slightly different formula was at this time prescribed, and he was advised to remain at his home and do no work for a time.

On March 19 he again called at the office, when he was given a prescription containing K. I. 8 gr., t. i. d. He was further advised to consult the oculist, Dr. Byron Gailey, for an examination of the fundus of the eye and also the ear from which he claimed to have had a slight discharge some two months previous. The examination proved to be wholly negative in its results. From this time until March 23 he went about as usual, though he had not yet returned to his work. After rising on the morning of the 24th he fell from his chair as if in a faint, was put back to bed and lapsed into profound slumber similar to those formerly experienced. I saw him a few hours later, as he could not be roused as readily as heretofore. As the day advanced the pulse rate increased rapidly till more than 80 and the temperature reached 102. The patient moved all the extremities alike. The pupils were small, as they had been throughout our observation. The symptoms all became intensified as the day advanced, the patient could not be aroused, the breathing was deep and stertorous. At the time he was advised to consult Dr. Gailey, brain tumor was suspected, but on the 24th it was thought rather to be an abscess. There had been no focal symptoms to assist in the diagnosis. Operative measures were considered, but, in the absence of localizing symptoms and the fact of rapid increase of temperature and pulse, the attempt was thought inadvisable. On the 25th and 26th the temperature gradually increased to 106 and an hour before death was 108 3/5. He died at 10:30 a. m. and at 12 noon, when autopsy was held, the temperature was still 108 3/5.

AUTOPSY.

The calvarium was removed in the usual way. There was no adhesion of the dura nor sign of meningitis. There appeared slight bulging of the right hemisphere, but the tension was not much changed. No pathological condition could be made out from examination of the cortex. Attempting to remove the brain entire, no event arose until, lifting it from the posterior fossa, a stream of pus poured out from the region of the mastoid, but intra-dural. The abscess seemed to have previously been ruptured from a sac-like wall and was located in the temporo-sphenoidal lobe. At the time the autopsy was held it was ascertained from relatives that, some fifteen years before that, the patient had been thrown from a horse, receiving injuries from which he had remained unconscious for two days. Whether this may have been the cause of the abscess is left to conjecture.

NORTH CENTRAL ILLINOIS MEDICAL ASSOCIATION.

The thirty-third annual meeting of the North Central Illinois Medical Association was called to order at the courthouse at Ottawa by the President, J. J. Pearson of Pontiac, Tuesday, Dec. 4, 1906, at 10:40 a. m. The roll call of members was dispensed with, but the following members were present: Wm. O. Ensign, Dromgohl, Weis, G. A. Dicus, W. P. Marshall, J. J. Pearson, J. C. White, Pike, Pettit and Hamilton. Dr. Weis, on behalf of the profession of Ottawa, welcomed the Association. Dr. Pearson, president of the Association, responded. The minutes of the previous meeting were then read and approved as read. Moved by Dr. Weis that the Secretary be instructed to furnish a copy of the minutes within thirty days to the State Medical Society, including Dr. Ensign's Historical Report. Carried.

Moved that the amendments to the constitution be laid over until later in the meeting. The applications of Dorsey Alfred Harwood of Ransom, Homer Allison Millard of Minonk, William Penrad Marshall of Long Point, Harry S. Lester of Streator, and Albert Charles Purcell of Streator were referred to the Board of Censors. The Board of Censors being absent, the following doctors were named as board *pro tem.*, Wm. O. Ensign, Hamilton and Gorden. The Board of Censors reported favorably upon the above applications and the Secretary was instructed to cast a ballot for Drs. Harwood, Millard, Marshall, Lester and Purcell for members of the Association, and their names were entered on the roll of membership. The Committee on Necrology reported that there had been no deaths during the year. The treasurer's report was then read and referred to the Board of Censors.

Dr. Wm. O. Ensign of Rutland then entertained us with a paper, "Medical Organization and the North Central Illinois Medical Association," in which he gave a sketch of the lives of the fifteen original members of the North Central Illinois Medical Association and presented a portrait of each member, which was not only exceedingly interesting, but of great value for medical history. It was then moved and carried unanimously that Dr. Ensign should furnish a complete copy of his paper to the Secretary in order that it might be entered in full upon the minutes of the Association and thus preserve a copy for future reference and that the paper should also be published in full in the STATE MEDICAL JOURNAL.

AFTERNOON SESSION, TUESDAY.

Called to order by the President. Dr. F. C. Robinson of Wyanet read a paper on "Reminiscences of a Country Physician." He related many interesting things concerning the troubles of a physician's life in rural districts thirty-four years ago. In the discussion which followed, Dr. Ensign moved that that portion of Dr. Robinson's paper describing what he knew personally of his early teachers in Rush Medical College be rewritten and placed in the hands of the Secretary. Carried.

Dr. C. H. Hamilton of Dwight read a paper on "Alcohol and Life Insurance." He claims alcoholism and tuberculosis cause 30 per cent. of all deaths. Alcoholism ranks next to syphilis in producing arterial scleroses. The steady every-day drinker is the one who, according to Lumas, develops Bright's disease, and the habitual daily user to any extent ought not to be admitted for insurance. Reformers after five years are eligible if otherwise all right. The just basis for insurance would be to make a cheaper rate for the teetotaler. . A lengthy discussion followed by Dr. Weis, Lewis and Patrick of Chicago, Kaiser and Sanger Brown, who thinks neuritis is often not neuritis, but cell disturbance, and that alcohol is not the cause of tabes and apoplexy as is often thought.

The applications of Drs. Ralph Gates Cressman, Ogelsby (283), and Albert Lester Stebbings (284), Marseilles, were read and referred to the Board of Censors. Five minutes' recess was declared in order to select a nominating committee, visitors and members to register and members to pay dues. Meeting was called to order and the applications of William Stokes Sterritt of Marseilles (285) and D'Orsey Hecht of Chicago (286) were read and referred to Board of Censors. Dr. Charles D. Thomas of Peoria read an instructive paper on "The Disease of the Frontal Sinus." Discussion by Drs Guthrie, Hecht and Sanger Brown of Chicago. Dr. J. F. Percy of Galesburg, President of the State Medical Society, read a paper on "The Borderland of Insanity," which was extensively discussed by Drs. Hecht, Stetler, W. P. Marshall, Sanger Brown and Percy.

The Board of Censors reported favorably upon the applications of Drs. Ralph Gates Cressman, Oglesby, Albert Lester Stebbins, Marseilles, William Stokes Sterritt, Marseilles, and D'Orsay Hecht of Chicago. It was moved, seconded and carried that the Secretary cast the ballot for the four doctors as members of the Association. The Secretary having performed that duty, they were declared elected and their names ordered placed upon the roll of membership. Dr. Pettit then announced that the visiting members would meet at 7 p. m. at the Ottawa Tent Colony, where they would be entertained at banquet by himself and Dr. Butterfield. Moved and carried to adjourn to meet at 8 a. m. Wednesday.

In the evening the visiting members, together with other invited guests from Ottawa and elsewhere, responding to Drs. Pettit's and Butterfield's invitation, assembled in the dining room at the Ottawa Tent Colony, where two hours were most pleasantly spent at the banquet table, at which Dr. J. F. Percy, President of the State Medical Society, presided as toastmaster and Rev. Bailey and Drs. Moyer and Pusey as speakers.

WEDNESDAY, DEC. 5, 1906.

Meeting called to order at 8:10 by the President. The application of Dr. John F. Crowley (287) of La Salle was received and referred to the Board of Censors. The nominating committee reported for officers of the Association

the following: For President, E. P. Cook of Mendota; First Vice-president, E. S. Murphy of Dixon; Second Vice-president, D. W. Jump of Plainfield; Secretary and Treasurer, G. A. Dicus, Streator; Board of Censors, F. A. Turner, Sandwich; J. J. Pearson, Pontiac; Roy Sexton, Streator; J. C. White, Seatonville; S. O. Hendrick, Henry; Committee on Necrology and Biography, F. C. Robinson, Wyanet; J. F. Dicus, Streator; J. M. Kaiser, Somonauk; G. B. Anthony, Sterling; James Tweddah, Washburn. Place of meeting to be selected. It was moved and seconded that the report so far be adopted and that Dr. Marshall of Long Point be instructed to cast the vote of the Association for the officers as reported for the ensuing year.

The nominating committee presented also the following resolution: "The North Central Illinois Medical Association, in convention assembled, desire to express their grateful thanks to the medical profession of the city of Ottawa for their hospitality towards us during our visit here. We especially thank Drs. Pettit and Butterfield for their entertainment at the Tent Colony, and thoroughly appreciate the work they have done to combat "the White Scourge" and wish them all the success they can possibly desire. To the press of Ottawa our thanks are extended for their courtesy towards us."

An amendment to Article 2, Section 2, of the constitution which was laid over from 1905 was then taken up and acted upon, relative to qualifications for membership. After the word qualifications, the following words were inserted: "And must be a member of the County Society in the county in which he lives if one exists."

It was moved and seconded that, in case no other invitations are in before we adjourn and if the physicians of Sterling find it satisfactory, we meet in Sterling in the year 1907. Moved and carried that the Secretary be instructed to drop the names from the roll of membership of those who are delinquent five years.

Harry S. Lester of Streator read a paper on "Toxic Amblyopias." Dr. S. O. Hendricks of Henry then read a paper on "The Social Features of Phthisis Pulmonalis." Wm. P. Marshall of Long Point read a paper on "Eczema and Its Treatment." Reported ten interesting cases of ileus. Dr. Frank E. Simpson of Chicago read a valuable paper on "The Diagnostic Value of Ulceration in Cutaneous Disease." Dr. H. A. Millard read a paper on "Inflammation of the Gall Ducts and Bladder," which was very interesting.

A motion was made by Dr. Ensign that Frank E. Simpson of Chicago be made an honorary member of the Association. Carried. Moved that Dr. Hecht, who applied for membership, be made an honorary member. Carried. The Secretary having reported Dr. Bonar of Streator seriously ill and not likely to be able to meet with us again, the following resolutions were prepared and unanimously adopted, with instructions to send a copy of the same to Dr. Bonar:

"*Resolved*, That the members of the North Central Illinois Medical Association, now assembled in annual session at Ottawa, Illinois, do most sincerely extend to their beloved fellow-member, Dr. B. L. Bonar of Streator, now confined by serious illness to his home in that city, their sincere sympathy in his physical affliction and most heartily wish and pray for his early restoration and future ability to again meet with them."

Moved that a committee of three be named whose duty it shall be to see what can be done to secure a larger attendance and greater interest in our meeting. A rising vote of thanks was tendered Dr. Pearson, the retiring President, and the officers for the year 1907. The Society adjourned to meet Dec. 3, 1907.

G. A. DICUS, Secretary.

ECZEMA.*

W. P. MARSHALL, M.D.

LONG POINT, ILL.

Eczema is a terra incognita, an unknown country, the remaining territory of a once much larger region, the landmarks of which have not been set up by accurate

* Read before the North Central Illinois Medical Association, Dec. 5, 1906.

survey. Explorers and investigators have discovered and mapped out on its borderland pemphigus, acne sycosis, and a host of other things capable of definition. The remainder is still eczema. This "changeable, manifold and polymorphous affection," as Professor Shoemaker terms it, has no type, for, once a type is recognized, it can be defined and ceases to be eczema. It is always something else. We say it is non-contagious, for contagion in one way identifies a given malady.

The definition must necessarily be a very elastic affair, and authors have succeeded fairly well in covering the ground. For example, Professor Shoemaker says: "It is a non-contagious inflammatory affection of the skin, acute or chronic character, appearing (mark the accuracy!) in the form of any one of the elementary lesions, such as erythema, papules, vesicles, pustules or a combination of these, causing all of the secondary lesions, accompanied with itching, more or less infiltration and frequently attended with a discharge and the formation of scales, crusts, fissures, abscesses, edema, and hypertrophy." Again: "It may appear as one or all of the results of inflammation, either successively or simultaneously, and be followed by any one of the above-named secondary lesions," and we might add, in the self-same spirit of scientific accuracy, by stenosis, kyphosis, pediculosis, fracture of the femur and a change of the moon. It is surprising to see to what heights of verbosity and depths of obscurity a skin specialist can sometimes go when he arrives at a pons asinorum like this. Gentlemen, if any one here should ever be afflicted with this disease or a desire to become a specialist in dermatology, let him retire to a hay mow or some quiet place and try to master two pages of description of it by Shoemaker or some of the other authors. It will not help the disease any, but it may cure the unhappy ambition.

Some authors pad out their books with chapters on eczema of different parts of the body, and eczema scroti, for instance, is a fertile field for verbosity. This location being the more frequent seat of the disease and treated more at length, we might here expect greater results of observation and treatment. Some pronounce in favor of a constitutional cause in every case, and then proceed to remark that, on account of the great vascularity of the derma of this part, that local irritation from scabies, dirt or pediculi may give rise to well-marked cases of eczema—and there you are again! This lack of consistency of the authors helps to make the study for the honest enquirer a peculiar difficulty. A pandemic aërobic microbe, so far as I know, has not been suggested. Let the calcium light of science be turned on again.

MORBID ANATOMY.

Under the heading of morbid anatomy, for example, the alterative conjunctive "or" and adverbs "frequently," "often" and "sometimes" play an important part in the description. Like the Delphic oracles, their assertions read several ways and mean most anything. Condensing the remarks of a high authority, we learn that the "vascular cuticle of this part, when the seat of the papular or vesicular variety, will be inflamed, swollen, red and hot, "sometimes." More frequently than "sometimes" "the erythematous form will be present, with more or less secondary change." (How very accurate.) "The rich supply of blood vessels, lymphatics and nerves will here account for the changes and symptoms which may be induced by various lesions." (!) "Inspection will reveal (?) the increased vascularity, the marked hyperphlasin of morbific products in the interstitial tissues of some of the lamella of the integument when they happen to be present." What tissues or lamella is not stated. We are supposed to be able to see clear into, if not through, the difficulty.

SYMPTOMS.

Under the heading of symptoms there is more English and less dictionary, but the puzzle goes on. We learn that "the organ is more or less swollen." Either way will do. "Sometimes rough and scaly and often the seat of most distressing itching," skin red, "often relaxed, hanging down and coming in contact with the legs, causes an extension of the constitutional disease." Professor Shoemaker is very positive about one clinical feature of these cases, and says: "When the relaxation disappears, the thickening increases to a great degree." He carefully

notes this "subsidence of relaxation," as he calls it, but some of us may happen to remember that this beautiful diagnostic symptom may happen to any healthy man or boy when he goes in swimming, if the water is too cold.

At this point I turned to Professor Osler's Practice for more light. We find that, while he gives (pp. 1048-49) very full information about harvest bugs and ticks, with their Latin names, and also full description and treatment for lice bites and a concise résumé of the ravages and cause of smell of the common bedbug (*Cimex lectuanius*) and its treatment, as well as of fleas and sand jiggers, yet he ignores this subject, with no reference to eczema whatever. Brilliant man! He knows an ass' bridge when he comes to it.

DIAGNOSIS.

The diagnosis, for these reasons, is attended with some difficulty, but should always be attempted. There is a long list of ailments, with symptoms identical with those which "may or may not exist" in eczema. The greatest difficulty lies in the fact that a small piece of skin not larger than a half dollar may be the seat of any one of the following ills, to wit: "*Ringworm, acne, syphilis herpes parasthesia, erythema multiforme and erythema nodosum, trycophytosis, lichen rosacea, dermatitis, psoriasis, seborrhea sicca and oleosa, pemphygus, favus, lupus, prurigo, dysidrosis, scabies, ruipetigo simplex and contagiosa, epithelioma, pytheriasis, pityriasis rubra, pediculosis pubis et corpus*, and various other diseases. Sycosis may be excluded where the beard does not grow. If any of these diseases is present, the eczema may be overlooked. If several or all of them are present at the same time, you see at once the diagnosis becomes a multiplied difficulty. To be exactly sure and certain and avoid empiricism, we must be able to exclude each and all of the above-named maladies by a differential diagnosis, and right here when least expected, our skill may be very sorely tried. For example, even supposing the case has been ciphered down to a differentiation between eczema scroti and pediculosis, with the insects in great numbers present and desecrating, as it were, the phallic shrines of humanity, the diagnosis here might seem mere child's play were it not for the fact that respectable authors, after affirming a belief in a constitutional cause for all cases, yet declare that true eczema may be produced by the pernicious activity of the aforesaid creatures. In sheer despair what can we do but refer the case to the superior wisdom of a professor of dermatology?

TREATMENT.

For a disease beautifully defined as changeable, manifold and polymorphous the treatment in vogue might also be expected to be "changeable and manifold," and so it has been. It would be unprofitable to review it. Fortunately for suffering humanity, the treatment does not present insurmountable difficulties. Rebellious patients need not be informed of our ignorance nor supplied with a long list of skin diseases with Latin names as above, but if duly advised of the dire effects of two or three may be induced to submit to our intelligent medication. Among the multitude of remedies supposed to be "more or less" beneficial, it will be easy to choose a variety for successive trials. The patience and the pocket book of the patient must be considered as well as the danger of acquiring the reputation of "a doctor who can't cure the itch." It is a curable affection. All the adjuvants of cleanliness and hygiene may be used to good effect and many cases will yield to the local use of oxid of zinc or ichthyol combined with lanolin. Often the use of the hypophosphites or other tonics indicated for internal use, with the following for local treatment: ℞. Chaulmoogra oil, 4 pts.; citrine ointment, 2 pts.; lanolin, 2 pts. Apply locally two or three times a day.

In conclusion, gentlemen, one serious word as to caution in diagnosis. Look out for manifestations of secondary or tertiary syphilis, another "manifold malady" which often masquerades as eczema. A few days ago a medical friend told me of a recent doleful experience of his own which will emphazize this point. The parents, apparently both healthy and virtuous, brought their little girl for

treatment of eczema of the face. Two other good and prominent physicians, "nameless here forevermore," in succession had tried and failed to do any good or get any result. My friend, too, was deceived by the apparent virtue of the parents. He failed also after due time. They went home in disgust, and the father began to give the child his own medicine—a nostrum containing potassium iodid—and the result was soon a satisfaction to all the parties except the doctors. Remember the iodid of potash in all doubtful cases.

TOXIC AMBLYOPIAS.*

H. S. LESTER, M.D.

STREATOR, ILL.

By toxic amblyopias I mean defective vision produced by poisoning. The most common form is that from alcohol and tobacco, but there are other amblyopias produced by narcotics and various drugs, and this being the case, this subject is of vital importance to every general practitioner, as well as to the ophthalmologist. And, as some of these conditions are characterized by an abnormal appearance of fundus oculi, how important it is that every student of medicine should understand and make use of the ophthalmoscope; when, in fact, how few learn the many lessons taught by the simple inspection of the eye. The practitioner who ignores any of these means of diagnosis is as culpable as the ophthalmologist who attempts to practice his specialty without keeping posted in general medicine. As the eye contains examples of almost all the tissues found in the body, and as the optic tracts in winding around the crura cerebri make connections with practically every central neuron, thus it is seen that the morbid histology of the eye and its nerves is not altogether a study apart, but is chiefly an application of the principles proper to general pathology.

Recent writers upon toxic amblyopias, while all agreeing as to the importance of the subject, yet they have been unable to make a relative classification of the subject, either from a chemical or an anatomic pathologic standpoint. A chemical classification is disadvantageous because substances chemically different may produce singularly analogous ocular symptoms. Some of our German men have arranged the drugs in alphabetical order, and some have made a clinical distinction, as may be drawn between retrobulbar neuritis and intoxication amblyopia. But these two forms can not always be separated, and the alphabetical arrangement has nothing to commend it.

Casey Wood's classification of the poisons into those that directly affect the optic nerve, those that produce other forms of optic nerve and retinal disease, and those that give rise to amblyopia symptoms unaccompanied by retinal or optic nerve lesions, is in many respects the most satisfactory one that thus far has been suggested. So, in handling this subject, I have found it impossible to dispense with the individual name of the drug which originates the visual defect.

Recent work with new histologic methods and with the culmination of a series of experiments which are in progress at the present time, indicate that we will soon be able to establish a satisfactory pathologic classification of the toxic amblyopias; and, instead of going into the subject from a histologic and pathologic standpoint, this paper will give in a general way some of the latest researches in poisonous substances or toxins liberated by them, in the system which produce amblyopia by an action on the ganglion cells, nerve fibers, optic nerves or their vascular supply.

A number of writers, Fisher, Nuel, de Schweinitz and others, believe that nicotine amblyopia is not primarily a disease of the macular bundles, but of the ganglion and other retinal cells in the macular region; it destroys their power of conducting impulses; and it is reasonable to suppose that the action of nicotine is not to produce in the first instance a retrobulbar neuritis, but a more peripheral action, constriction of arterioles and eventually changes in the cone fibers, the inner granules, or both.

The center of the visual field is characterized by scotomas, or a blindness for

*Read before the North Central Illinois Medical Association, Dec. 4, 1907.

red and green. For a long time Van Graefe and Leber surmised that central scotoma was a symptom of lesion of the optic nerve. It remained for Samelsohn in 1880 to furnish the anatomic proof. We have a few cases of sudden blindness from acute tobacco poisoning. For example, after applying it to a hollow tooth or following an enema; but from experiments in animals, this form, called intoxication amblyopia, does not present demonstrable lesions in the optic nerves. It is very hard to separate the symptoms of tobacco and alcohol amblyopia, as nearly all that use alcohol use tobacco. Patients usually of middle age will come with both eyes affected, complaining of foggy or misty vision. The disease is painless and presents no external signs. They rarely suspect the true cause of their visual defects. The acuity is lowered to at least two-fifths or two-sevenths of normal vision, and the reading of fine print is difficult or impossible with any glass.

In the tobacco cases, in the early stages the ophthalmoscopic findings are negative, or at most there is slight veiling of the edges of the disc and discoloration of its surface. Later there is a pallor of the temporal half, or pallor of a quadrant-shaped area in the lower and outer part, an area which in aggravated cases assumes the appearances of complete atrophy. In alcoholic cases we have the same scotoma for red and green and sometimes for blue. This can be tested by taking small pieces of red or green yarn between the thumb and finger and holding directly in front of the eye. If held higher or lower, or to either side, the patient will more easily distinguish the color.

In the mixed cases the relation of alcohol to the production of the amblyopia is that it predisposes to tobacco amblyopia, by producing chronic dyspepsia, or by lowering the vital powers which are thus unable to resist toxic influences. According to Sachs and Horner, the true relation of nicotine to the production of amblyopia has not been determined. The great volatility of nicotine and then presence of numerous other poisons in tobacco smoke indicate that nicotine can not be the only active principle at work, and it is probable that the poisonous effects of tobacco, not only upon the optic nerve, but on the system generally, are enforced by volatile alkaloids, formed during its combustion, possibly piridin or collodin, should be regarded as active toxic agents in this respect. It is quite possible that nicotine or one or more of the principles present in tobacco smoke liberate some toxic influence in the system which must be held accountable for the disease, which, in other words, depends upon a species of autointoxication.

Sachs maintains that even in pure tobacco cases certain complex chemical combinations occur in the stomach, and there is a transformation of the normal gastric juices into acids of the fatty type, which combine with nicotine into substances which are more injurious than the simple tobacco bases themselves. This observation is important in connection with certain experimental work under the direction of Dr. Casey Wood, not yet published, which indicates that certain stomachic toxins are capable of causing in animals blindness, probably of the type now under consideration.

In these combined cases the prognosis is favorable; taken in time a perfect recovery generally follows. There must be total and immediate abstinence from tobacco and alcohol; good food, fresh air, sufficient sleep, Turkish baths are indicated; internally iron and strychnia. If this routine treatment be followed for one to three months a cure can confidently be expected.

AMBLYOPIA FROM THE ESSENCE OF JAMAICA GINGER AND THE ESSENCE OF PEPPERMINT.

The last few years a number of such cases have been reported by Thompson, de Schweinitz, Gifford, Casey Wood and others. They especially occur among sailors, who consume large quantities of the essence of ginger, and the Indians of the northwest who consume the essence of peppermint, essence of lemon, etc., in place of whisky. The symptoms are uniform in all cases; for nearly twenty-four hours after the ingestion of the poisonous fluid, vision appears unaffected; suddenly the patient becomes almost or totally blind. If he survives, improvement in sight slowly takes place, but this is likely to stop after the lapse of a few more

days or weeks, and the sight diminishes until he becomes blind. The treatment is that of optic nerve atrophy, following neuritis.

A case of typical toxic amblyopia, produced by a dose of santonin is reported after taking an unknown amount of the drug, the patient awoke next morning to find everything looking yellow. The xanthopsia persisted for three days and left a visual disturbance of the right eye. After six weeks the symptoms disappeared.

Amblyopia from iodoform has been reported by De Vries, Hirschberg, Priestly Smith, Hutchinson and others. The ages of the cases run from nine to forty-eight years. The sexes were about equally divided. Hutchinson's and Smith's cases were treated with iodoform pills for pulmonary complaints, while in others it was used as dressings and injections. The De Vries case was a 9-year-old patient with a vertebra abscess, which was regularly syringed with 10 per cent. of iodoform in glycerin; the smallest injection contained 60 grams of the fluid. The patient was taken by emesis, headache, dilatation of the pupils and increased pulse and temperature. An absolute central scotoma was found in the left eye; relative in the right, the fundi were normal. When last examined a scotoma for red was present in the left eye and vision one-sixth, the right was improved until vision was one-half.

One case of a boy 15 years old who was treated locally after an operation for osteomyelitis of the femur, with the antiseptic preparation known as ioduret, at the end of three weeks there was a central scotoma. Another case was a 16-year-old girl whose surgical lesion was a widespread burn, which was treated with applications of thiuret. A month later she had marked failure of central vision, a large central scotoma and temporal atrophy of the optic nerves. Removal of the drugs and injection of strychnin resulted in improvements in both cases.

Five cases of optic neuritis following the excessive use of thyroidin have come under the observation of Coppez. Four of these were in women and one in a man. The toxic amblyopia was of the retrobulbar type, giving rise to central scotoma. The drug was taken for obesity. Straub reports loss of vision following the taking of forty drops of fluid extract of hydrastis three times daily for three months. Improvement took place upon stopping the drug and treating the retrobulbar neuritis.

Disturbances in vision due to the toxic influence of lead has been known for a great many years. They are usually preceded by other signs of chronic plumbism. There are no ocular symptoms diagnostic of chronic plumbism; may or may not have central scotomas; may be almost any symptom seen in amblyopias.

Well-authenticated cases of arsenical amblyopia are rare. Liebrecht and Derby each report several cases. We have no report of cases among the arsenic eaters of Styria. According to Gowers, amblyopia analogous to that caused by lead, may occur from nitrate of silver. Amblyopia from mercury has been questioned by some of our best men, although it has always been credited with producing defective vision. In acute mercury poisoning, de Schweinitz says that it is probably true that hemorrhages and fatty degeneration of the retina occur. These same conditions would apply to amblyopia from phosphorus. Amblyopia from various coal tar products, such as antifebrin (acetanilid), phenacetin and antipyrin.

According to Hilbert, large doses of acetanilid (45 grains) may cause complete blindness, followed by marked anemia of the optic nerve and retina, with shrinking of the vessels and contraction of the visual field, a similar condition to quinin amaurosis, and would suggest a similar pathogenesis. Other symptoms noted after large doses of this drug have been narrow and immobile pupils and distension of the retinal veins.

Goodman reports cases of temporary amaurosis from antipyrin. I was called one evening to see a young lady, who, several hours had taken an unknown quantity of phenacetin for a headache. She was suddenly stricken with confusion in vision, which amounted to almost total blindness. This condition lasting several hours, and the vision gradually clearing up in a few days, the examination

of the eye was negative. We have irregular and spasmodic contraction of the muscles of accommodation which blurs the vision; also temporary loss of sight, with contracted pupils, attributable to cramp of the retinal vessels; or there may be atrophy of the optic papilla and central scotoma. Intoxication amblyopia is reported from chloral. From the long-continued use of potassium bromid, keratitis (Gifford), phlyctenular conjunctivitis (Kneis), and ptosis and dilated pupils (Rudisch) have been described. Amblyopia attributable to iodid of potassium does not seem to have been reported. A few cases of amblyopia have been reported from large doses of cannabis indica, vanilla and stramonium, and Würdemann reports one case from ergot.

Casey Wood suggests that minor defects of vision manifesting themselves in the form of asthenopia probably not infrequently are caused by drugs and beverages in every-day use. He not only includes what drugs I have mentioned, but includes in his list quinin and the salicylates; also tea, coffee, chocolate, high game and strong cheese, believing that the asthenopic symptoms produced by this latter group is caused by some form of dyspepsia which these substances originates; in fact, a form of ptomain poisoning.

Temporary amblyopia may be produced from any of the salicylates or any of the preparations of the cinchona bark. But quinin, probably more than any other drug mentioned, is prone to produce complete blindness or amaurosis, which may occur in twenty-four hours from a dose of 15 grains to 1 ounce. This is caused by contraction of the retinal vessels, followed by destruction of ganglion cells and ascending degeneration of the optic nerve.

In my own practice I have had two cases of temporary amblyopia produced by the much advertised preparation, laxative bromo quinin. Each patient was a middle-aged lady and each was taken with vomiting and almost complete blindness several hours after taking six or eight of the tablets. The pupils were inclined to be dilated. The amblyopia gradually cleared up in about three days.

PIKE COUNTY.

The Pike County Medical Society met at Pittsfield, Ill., April 25, 1907. The following members were present: Drs. Crane, W. E. Shastid, Duffield, Peacock, Smith, Rainwater, McComas, Lacy, McConnell, Thomas, Miller, Harvey and Main. Dr. J. F. Percy of Galesburg was also present. After the transaction of the regular business of the society, the following officers were elected for the ensuing year: President, F. Marion Crane, Pittsfield; Vice-president, L. S. Lacy, Pittsfield; Secretary-treasurer, R. H. Main, Barry; delegate, J. Estill Miller, Pittsfield; alternate, R. O. Smith, Pittsfield. Dr. J. F. Percy addressed the Society on "The Future of the Illinois State Medical Society." Dr. J. L. Lacy addressed the society on the subject of "Neurasthenia." Dr. S. Smith Thomas read a very entertaining paper on "Biblical Obstetrics." Dr. J. F. Percy read an interesting paper on "The Borderland of Insanity," which, in conjunction with Dr. Lacy's subject, elicited an interesting discussion. By a vote the Society passed resolutions of respect to the memory of the late Dr. Harvey Dunn.

WABASH COUNTY.

The regular meeting of the Wabash County Medical Association was held in Mt. Carmel Tuesday afternoon. The program consisted of a paper by Dr. J. A. Knapp of Evansville, Ind., on "Air Passages and Breathing." It was illustrated by specimens and clinical cases. The Society donated $2 on the Drs. Hollister and Ensign memorial fund. In the evening the members of the Association and their wives were entertained at the home of Dr. S. W. Schneck, where a pleasing program was rendered. In the afternoon Dr. W. E. Mercer was elected a member of the Association and an alternate delegate to the State Association. Dr. J. B. Maxwell was elected delegate to the State Association at Rockford in May.

WAYNE COUNTY.

The Wayne County Medical Society held its regular quarterly meeting at Dr. Bean's office in Fairfield on Wednesday, April 10, 1907. Those present were: W. M. Johnson, G. A. McDonald, J. E. Dixon, B. E. Garrison, T. J. Hilliard, F. Bean and J. P. Walters. The meeting was called to order by the President, W. M. Johnson, at 2 p. m. The application for membership of Dr. N. J. Hall was considered by the Society and by unanimous vote he was elected to membership.

The following were unanimously elected to fill the respective offices for the ensuing year: President, F. Bean; Vice-president, T. J. Hilliard; Secretary and Treasurer, J. P. Walters. Censors are to be appointed by the President when needed. Dr. G. A. McDonald read an interesting paper on "Puerperal Eclampsia Occurring Before, During and After Labor," which was reviewed by Dr. J. P. Walters, after which there was a general discussion of the subject till 5 o'clock, when the Society adjourned to meet again in the evening.

At 7 o'clock the meeting was called to order by the President. Dr. N. J. Hall reported a case which began like an ordinary case of lobar pneumonia. The patient had an initial chill, followed by fever, pain in side of chest, cough, with expectoration of bloody or rusty sputum and hurried breathing, all of which symptoms subsided inside of forty-eight hours. The doctor propounded this question: Was this a case of pneumonia aborted or a case of pulmonary congestion? A free and spirited discussion followed this query, in which all present participated.

Dr. J. E. Dixon read a paper on "Up-to-date Treatment of Bronchitis in Children." The doctor had evidently studied his subject well. The subject was freely discussed by all present, continuing till a late hour, when the Society voted adjournment to meet at Jeffersonville at a time to be determined by the President and the Secretary.

NEWS OF THE STATE.

Dr. D. R. Brower has returned from Egypt.

Dr. Emanuel J. Senn, of Chicago, returned from Europe May 5.

Dr. Leigh E. Schwartz, Highland Park, sailed for Europe May 2.

Dr. L. Blake Baldwin has been appointed city physician for Chicago.

Dr. Albert I. Bouffler has returned after a few months in California.

Dr. and Mrs. Robert A. Noble, Bloomington, have returned from abroad.

Dr. John W. Houston has been made president of the Virginia Board of Health.

Johns Hopkins University has opened its doors to women on equal terms with men.

It is estimated that there are 25,000 women in America who possess medical diplomas.

A case of smallpox has occurred in Rushville, said to have been imported from Beardstown.

Dr. August H. Arp has been made health commissioner of Moline, vice Dr. Robert C. J. Meyer.

Dr. Frederick W. Werner, Joliet, who has been ill with sciatica, is reported to be improving.

Dr. T. J. Fenton, Philo, is reported to be critically ill at the Burnham Hospital, Champaign.

The city of Munich has voted a grant of $25,000 to be applied toward the diminution of infant mortality.

Owing to the many protests from physicians throughout the state, Governor Deneen has vetoed the Optometry Bill.

By the will of James Henry Smith, $100,000 is bequeathed to St. Luke's Hospital of Chicago, of which he was a trustee.

Dr. V. D. Lespinasse has removed his office to Suite 1001, Chicago Savings Bank Building, 72 East Madison Street, Chicago.

On account of the prevalence of smallpox at Tremont, the commencement exercises at the high school have been postponed.

McGill University of Montreal has again suffered a destructive fire and the loss of over $350,000 in medical buildings and museum.

Dr. Walter Wilhelmj, East St. Louis, has been appointed assistant physician of St. Clair County, vice Dr. William C. Spannagil, resigned.

Dr. C. Burr Caldwell, Bethany, has received an appointment as resident physician of the Illinois Southern Hospital for the Insane, Anna.

The annual banquet of the Douglas Park Branch of the Chicago Medical Society was held at the Sherman House, Chicago, Monday, May 27, at 7:30 p. m.

Dr. William H. Knapp of Chicago is reported to have been seriously injured in the accident on the Mexican Central Railway, at Bermejillo, Mexico, May 11.

Dr. C. A. Stone, of Mason City, has purchased a practice and will locate at Riverside, Cook County. He has sold his property to Dr. H. O. Rogier, of St. Louis, Mo.

The county board of Cook County has added six members to the staff of the Cook County Hospital and one member to the staff of the Contagious Disease Hospital.

The Elizabeth William Memorial Hospital, the maternity department of the Evanston Hospital, just completed at a cost of $25,000, was formally dedicated May 9.

Professor Killian of Freiburg, Germany, gave a clinic at Rush Medical College on diseases of the nose and throat, May 15, at 2 p. m., to which the profession of the city were invited.

The Society of Ex-Internes of St. Luke's Hospital, Chicago, held its annual meeting and banquet April 27. Dr. Samuel J. Walker was elected president and Dr. George Edwin Baxter, secretary.

A banquet was given May 2 by the Menard County Medical Society at Petersburg in honor of Dr. Joseph W. Newcomer, "in recognition of his loyal and faithful services to the profession in Menard County."

Dr. J. M. G. Carter, of Waukegan, has removed to 911 First National Bank Building, Chicago, where he will devote his time to office practice and service as medical director of the Commercial Insurance Company.

Dr. C. B. Caldwell, of Bethany, has been appointed to a position in the Southern Illinois Hospital for the Insane at Anna. Dr. Caldwell secured this under the provision of the civil service law at an examination held recently in Springfield.

The following promotions were made in the University of Chicago: Dr. Robert R. Bensley has been made professor of anatomy; Edwin O. Jordon, professor of pathology and bacteriology, and Drs. Howard T. Ricketts and Norman M. Harris, assistant professors in pathology and bacteriology.

The Elgin Physicians' Club, May 6, elected the following officers: Dr. Jane C. Truill, secretary; Dr. Lewis W. Dudley, treasurer, and Drs. Edward H. Abbott, Leonard S. Taylor and James Campbell members of the executive committee. Dr. Dwight E. Burlingame was chosen as chairman for the evening.

At the thirty-third annual meeting of the Central Illinois District Medical Society, held in Pana, April 20, the following officers were elected: President, Dr. Frank P. Auld, Shelbyville; vice-presidents, Drs. Ben B. Griffith, Springfield, and Don W. Deal, Springfield; treasurer, Dr. John N. Nelms, Taylorville, and secretary, Dr. Roscoe C. Danford, Pana.

The State Civil Service Commission announces that it will call an examination for assistant physicians in the hospitals for the insane, internes, and possibly a psycho-pathologist, in June. These positions pay from $75 to $125 per month and board, in the majority of cases. The position of psycho-pathologist will, it is believed, pay not less than $3,000 a year.

The banquet for the medical staff of the Oak Park Hospital, which was postponed from March 3 on account of the illness of Dr. John W. Tope, chief of staff, was held May 4. Bishop E. J. Dunne, Dallas, Texas, gave the opening address. Dr. William A. Evans, health commissioner

of Chicago, was toastmaster. Addresses were made by several physicians of Chicago.

The Stock Yards Branch of the Chicago Medical Society held their fifth annual banquet at DeJonghes, Tuesday, May 28, 1907. A large number attended. An orchestra and quartet furnished music, and many other features were on the program. George W. Webster, president of the Chicago Medical Society, and W. A. Evans, Health Commissioner, were among the speakers.

The College of Physicians and Surgeons of New York is just passing its one-hundredth anniversary. The charter bears the date of March 12, 1807. The first class graduated in 1811, that year also being notable for the induction into office as president of Dr. Samuel Bard, who had been the physician of George Washington and a former dean of the medical faculty of Columbia College.

W. C. Fuchs, one of the pioneers in the use of the *x*-ray in Chicago and for a long time the head of the laboratory that did the greater part of the skiagraphic work for the physicians of the city, recently died as the result of numerous *x*-ray burns. For two years he had been suffering and repeated amputations failed to save his life. He was the fifth in this country to perish from the same cause.

Under the omnibus appropriation bill, the State Board of Health will be allowed $15,000 yearly for free distribution of antidiphtheritic serum outside of Chicago. The appropriations of the State Board of Health have been materially increased also by this bill, the sum of $119,200 having been appropriated for the work of the board, against the sum of $83,320 granted by the General Assembly of 1905.

Lord Lister celebrated his eightieth birthday at his residence, 12 Park Crescent, Portland Place, London, April 13, 1907. Many telegrams from all parts of London, the country and abroad reached him. His apartments were decorated with floral offerings from professional and private friends and admirers. To each bouquet was attached a card bearing a congratulatory message. He received several deputations, who presented addresses expressing high appreciation of his work.

The following is reported as abstracted from the records of the National City Health Office, California: Population, 2,000. From Jan. 19, 1900, to the present date, a period of five years, there have been in our city only ten deaths from acute diseases. In these five years there has not been a death from measles, scarlet fever, diphtheria, typhoid or malarial fever, cholera infantum or any other form of bowel trouble, and only two from pneumonia.

A bill introduced at the instance of the State Board of Health will confer specific authority on the State Board of Health to establish standards of preliminary education and to determine the standing of literary, scientific and medical schools, will provide for reciprocal registration of licenses; will allow the members of the board compensation for their services, and will remedy a defect in the act of 1899 by giving the State Board of Health jurisdiction over all licenses issued since July 1, 1877.

The fifth annual conference of state and territorial boards of health with the Public Health and Marine-Hospital Service was held in Washington, D. C., May 31, 1907. These conferences are convened in accordance with the Act of Congress approved July 1, 1902, "increasing the efficiency of the Marine-Hospital Service." The subject to come before this conference for discussion will be: "Sanitary Supervision of Milk Supplies," "Malaria, its Geographical Distribution," and "Bacillus Carriers."

The following changes have been made in the National Guard: Major Charles Adams has resigned as surgeon of the First Infantry and has been made secretary to the surgeon general. Capt. Samuel C. Stanton has passed his promotional examination and Dr. Daniel W. Rogers his examination for the medical department, and they will be assigned as major and surgeon and first lieutenant and assistant surgeon, respectively, to the First Infantry. Dr. Harry D. Orr has passed his examination and will be commissioned first lieutenant and assistant surgeon, and assigned to the First Cavalry.

Governor Deneen has allowed the bill giving the State Board of Health supreme authority in all matters of quarantine to become a law without his signature. The constitutionality of the sections authorizing the board to make and enforce rules and regulations, which shall have the force and effect of the statutes, was questioned, and this led the chief executive to withhold his signature. The bill makes the secretary the executive officer of the board, and empowers him to enforce such measures as he may deem necessary to protect the public health, when the board is not in session.

A bill conferring additional powers on the State Board of Health passed both houses. It gives the board supreme authority in all matters of quarantine and makes it the duty of all local boards of health to enforce the rules and regulations adopted by the State Board. A severe penalty is provided for violation of the regulations of the State Board of Health, which is empowered to enforce health measures in cities and villages when the municipal authorities neglect or refuse to act with sufficient promptness or efficiency, and to collect from the city or village all necessary expenses incurred.

Health Commissioner Evans of Chicago addressed his co-workers as follows: If we succeed it will be due to three factors: 1. The efforts of Drs. Whalen, Reynolds and their predecessors, who have increased the efficiency of the department year by year until it has reached its present position. I wish sincerely to acknowledge our debt to them. 2. The support of the men of the department. I must have their help, not only in matters of routine, but in planning and managing and in solving great community problems. It must be our department. 3. We must have the support of the people and the press.

The regular meeting of the Physicians' Club of Chicago was held at the Great Northern Hotel, Tuesday evening, May 28, 1907, at 6:30 p. m. The occasion was the annual meeting. Dr. Daniel R. Brower presided as chairman for the evening. A family dinner was provided for the members from the funds in the treasury. Entertainment was furnished after

the dinner by various comedians. The following officers were elected for the ensuing year: Dr. D. R. Brower, chairman of board of directors; directors, William Belfield, Chas. L. Mix, Charles Paddock, A. C. Cotton, D. A. K. Steele; secretary, Edwin Tuteur.

At the opening of the House of Delegates of the Illinois State Medical Society, a committee consisting of F. R. Green, H. C. Mitchel and T. A. Aderhold, was appointed to draft resolutions regarding the Optometry Bill and send the same to Governor Deneen. The committee reported that the following telegram had been sent to Governor Deneen:

"The House of Delegates of the Illinois State Medical Society, assembled at Rockford, has unanimously adopted a resolution requesting you, in behalf of the 4,500 physicians whom it represents, to veto Senate Bill No. 845, establishing a State Board of Optometry.

E. W. WEIS, *Secretary.* J. F. PERCY, *President.*

At the regular monthly meeting of the Champaign County Medical Society, April 11, the following resolutions were unanimously adopted:

WHEREAS, In certain parts of the county, fees are allowed for treatment of pauper cases, while in other parts of the county the payment is refused; be it

Resolved, That it is the sense of this society that operation fees and full fees for attendance be charged for treating pauper cases on orders from supervisors; be it further

Resolved, That this resolution be binding on the members of this society immediately on its adoption; be it further

Resolved, That a committee of three be appointed to confer with the board of supervisors at their next meeting.

A board of officers will be convened to meet at the Bureau of Public Health and Marine-Hospital Service, 3 B street S. E., Washington, D. C., Monday, July 15, 1907, at 10 o'clock a. m., for the purpose of examining candidates for admission to the grade of assistant surgeon in the Public Health and Marine-Hospital Service.

Candidates must be between 22 and 30 years of age, graduates of a reputable medical college, and must furnish testimonials from responsible persons as to their professional and moral character.

The following is the usual order of the examinations: 1, physical; 2, oral; 3, written; 4, clinical.

In addition to the physical examination, candidates are required to certify that they believe themselves free from any ailment which would disqualify them for service in any climate.

The examinations are chiefly in writing, and begin with a short autobiography of the candidate. The remainder of the written exercise consists in examination of the various branches of medicine, surgery, and hygiene.

The oral examination includes subjects of preliminary education, history, literature, and natural sciences.

The clinical examination is conducted at a hospital, and, when practicable, candidates are required to perform surgical operations on a cadaver.

Successful candidates will be numbered according to their attainments

on examination, and will be commissioned in the same order as vacancies occur.

Upon appointment the young officers are, as a rule, first assigned to duty at one of the large hospitals, as at Boston, New York, New Orleans, Chicago, or San Francisco.

After five years' service, assistant surgeons are entitled to examination for promotion to the grade of passed assistant surgeon.

Promotion to the grade of surgeon is made according to seniority, and after due examination as vacancies occur in that grade.

Assistant surgeons receive $1,600, passed assistant surgeons $2,000, and surgeons $2,500 a year. When quarters are not provided, commutation at the rate of $30, $40, and $50 a month, according to grade, is allowed.

All grades above that of assistant surgeon receive longevity pay, 10 per cent. in addition to the regular salary for every five years' service up to 40 per cent. after twenty years' service.

The tenure of office is permanent. Officers traveling under orders are allowed actual expenses.

For further information, or for invitation to appear before the board of examiners, address "Surgeon-General, Public Health and Marine-Hospital Service, Washington, D. C."

ANNUAL MEETING AT ROCKFORD.

The fifty-seventh annual session of the Illinois State Society was held in Rockford, May 21 to 23, 1907. Over 600 physicians from the state were registered, and a number of visiting physicians from the adjoining states of Iowa and Wisconsin were also present. The program as outlined in the May issue of THE JOURNAL was carried out most successfully. The chairmen of the sections are to be commended for the rapidity with which they dispatched their work. The committee of arrangements from the Winnebago County Society deserve great credit for the manner in which they entertained the members of the State Medical Society and their guests. The regular meetings were held in the Christian Union Church. The program of section one was given on the first day in general assembly. The program of section two was given on the second day, also the program of the medicolegal committee. The so-called "borderline cases" occupied the morning of the third day. The house of delegates was called to order at 8:30 Tuesday morning by the president, J. F. Percy, Galesburg. The business of the house of delegates necessitated several sessions. On the morning of the second day the house convened to hear the president's report and the reports of other officers and committees. On the third day occurred in the meeting in the house of delegates the annual elections, final reports of committees, and such other business as should come before the assembly. The following officers were elected for the coming year: President, Dr. William L. Baum, now treasurer of the Chicago Medical Society; first vice-president, Dr. C. W. Lille, East St. Louis; second vice-president, Dr. T. H. Culhane, Rockford; treas-

urer, Dr. E. J. Brown, Decatur; secretary, Dr. Edmund W. Weis, Ottawa. Peoria was selected as the next meeting place for the annual session in 1908.

On Tuesday evening occurred the regular general assembly meeting in the main room of the Christian Union Church. Vice-President L. H. A. Nickerson, Quincy, presided. Invocation, Rev. Father Flarety. Address of welcome by Hon. Mark Jardine, Mayor of Rockford. Response on behalf of the Society, by the President, President's Annual Address, J. F. Percy, Galesburg. Address, Section One, Robert B. Preble, Chicago.

On Wednesday night occurred the banquet at the Nelson House. This banquet was a testimonial to Dr. John H. Hollister of Chicago, and William O. Ensign of Rutland. Nearly 300 guests assembled at the banquet table. The occasion was that of the celebration of Dr. Hollister's fifty years' valued membership in the Illinois State Society, and of Dr. Ensign's long-continued and valued services as a member. The following program had been arranged as fitting for the occasion:

TOASTS.

"In seventy or eighty years a man may have a deep gust of the world, knows what it is, what it can afford, and what 'tis to have been a man." The President, DR. J. F. PERCY.

"A slave unto mammon makes no servant unto God." The Toastmaster, DR. G. W. WEBSTER.

"Bright thoughts, clear deeds, constancy, fidelity, bounty and generous honesty are the gems of noble minds." DR. WILLIAM E. QUINE.

MUSIC.

EULOGIUM.

"Praise is a debt we owe unto the virtues of others and due unto our own from all whom God hath not made mutes or envy struck dumb." DR. G. W. WEBSTER.

MUSIC.

"Let me not injure the felicity of others, if I say I am as happy as any." REV. N. B. CLINCH.

SONG.

(The toasts were selected from Religio Medici, by Thomas Browne, M.D., knight of the first third of the Seventeenth Century.)

Dr. Newcomb of Champaign presented a beautiful book to Dr. Ensign and Dr. Webster presented a similar book to Dr. Hollister. Each book contained a short biography of the gentlemen to whom it was given, and contained the autograph of all the members of the State Society present at the Rockford meeting. In his presentation to Dr. Hollister, Dr. Webster said in part:

Mr. President and Members of the Society:

By the gracious courtesy of the Entertainment Committee, upon me has been conferred the great honor and pleasure of acting as toastmaster upon this commemorative anniversary.

At the annual meeting at Springfield last year, we were reminded that this year would be the fiftieth aniversary of Dr. John H. Hollister's membership in the State Society, and the suggestion was made that it be celebrated in some fitting manner. Accordingly, it was voted by the House of Delegates that a committee be chosen to prepare some suitable token of our love and respect, to be presented at the annual banquet. After the meeting, Dr. Newcomb suggested that, because Dr. Ensign was the oldest living ex-president, and because of his long and faithful service in the work of the State Society, that a similar memorial be presented to him. This was ordered by the Council, and the names of Dr. Newcomb and Dr. Lichty were added, we three constituting the committee. After one or two conferences, the committee decided upon these books as the most appropriate and suitable form of testimonial. In order that all members of the State Society might have an opportunity to contribute, for we wanted small contributions from the many rather than large ones from the few, in order that the testimonials might be representative of the whole profession of the entire state, asking for contributions, a letter was sent to the secretary of every county in the state. In this manner the necessary funds have been raised, showing the degree of respect, love and esteem in which Drs. Hollister and Ensign are held by the physicians of the state. . . .

Dr. Hollister:

On this the fiftieth anniversary of your membrship in the Illinois State Medical Society, and in behalf of all its members, upon me devolves the very pleasant duty and great privilege of presenting to you this beautiful book as a tribute of our appreciation, a slight token of our love and esteem. In it, besides the names of several hundred of our members, I find written the following:

We give it to you because we believe in strewing flowers in the pathway of the living rather than in gathering garlands for the graves of the dead.

We give it to you because we love you and we love you because you first loved us.

We give it to you with the earnest wish that you may live long to enjoy the friendship and honor, the esteem and love of which it is a token.

This is a book for this medical birthday, not a bargain book, but a beautiful book, a book to caress, peculiar, individual, a book written by a friend with a tender whim, right out of his heart. Read it in the gloaming, and when the gathering dusk doth blur the page, when the evening of life shall come, when the shadows have lengthened along the land, when the embers of red have turned to ashes of gray, "ere yet the silver cord be loosed and the golden bowl broken," bequeath it as a precious legacy to your children's children.

Drs. Ensign and Hollister responded to the presentation in most interesting reminiscences and good wishes for the future growth and prosperity of the society. The appended biographies were printed in the books given to Drs. Hollister and Ensign.

A very important meeting occurred at the Rockford session, which

will undoubtedly be productive of large results in organization, namely, the formation of an organization of the secretaries of the component societies. All reports of officers and committees told of a distinct growth and advance in the various activities of the society, and outlined a distinct program of constructive work for the future. The official proceedings will be published in a subsequent issue.

DR. JOHN H. HOLLISTER.

On June 3, 1856, on motion of Dr. J. W. Freer, the youth whose likeness on this page you may recognize, was elected to membership in the Illinois State Medical Society. Since then he has filled almost every office in its gift—president, treasurer for twenty years, delegate to the American Medical Association almost consecutively since 1858, etc., and has filled all and each of these positions with such integrity and ability that the Illinois State Medical Society desires to express in this memorial its gratitude for his length of days, efficiency of service and consistent devotion to the highest ideals.

Dr. John H. Hollister.

In the list of 139 physicians in the Chicago directory for 1856 may be found the name of J. H. Hollister, 22 Clark Street, residence 194 West Washington Street, recently attracted to the growing city, then numbering some 80,000 inhabitants. He was the son of a Godly mother. His earlier years had been spent in a Christian household. The generosity of a wealthy uncle had given him an academic education and graduation from the Rochester College Institute. His subsequent medical course was in one of the best medical colleges of its day, the Berkshire at Pittsfield, Mass., from which he graduated in 1847.

He had first won his medical spurs in Otesco, and larger success later at Grand Rapids, Mich. Best of all, he had married a good and rightly ambitious wife during his residence in Michigan. Small wonder, then, that success came rapidly to the newcomer in Chicago. The Chicago of 1855 was scarcely larger than two wards of our present city, and it is a debatable question whether it ever had an abler and more efficient body

medical. For the first and only time in its history Chicago had a physician, Dr. Levi D. Boon, for its mayor. There were then in active practice the indefatigable Nathan Smith Davis, the resourceful Edmund Andrews, the polished William B. Herrick, the courtly De Laskie Miller, the daring Daniel Brainard, the learned J. V. Z. Blaney, the successful John Evans, the gifted J. W. Freer, the eloquent Hosmer A. Johnson, the metaphysical Thomas Bevan, and the gruff and kindly hearted Charles Gilman Smith. These were the men who welcomed you to Chicago and straightway became your friends, for they soon found you worthy of every responsibility entrusted to your care.

So it came to pass that within a year after your arrival you were elected secretary of the Cook County Medical Society, later its president, and over and over again its delegate to the American Medical Association. Membership in the State Medical Society followed in June, and in October of that year (1856) your name appears in the announcement of Rush Medical College as demonstrator of anatomy, vice Edmund Andrews, resigned. This was the beginning of nearly forty years of efficient and valued teaching, first at Rush and later in the medical department of Lind University, subsequently the Chicago Medical College, which still later was merged in the medical department of the Northwestern University, with which you still hold an emeritus connection.

During all these years you have not only delivered didactic lectures, but have added no less valuable clinical work in Mercy and Cook County hospitals. As a teacher your work has ranked high, exceedingly so in clearness and accuracy, and hundreds of your former students still recall with gratitude your practical and helpful work, both at the bedside and in the amphitheater. As a writer as well as a teacher, you have acquired an enviable reputation. Your presidential address delivered before the State Medical Society at its meeting at Jacksonville in May, 1875, is a model of its kind and your literary work with good reason is eagerly sought after by enterprising Chicago publishers.

The most valuable asset to-day of the American Medical Association is its journal, which owes much of its value to the policy and methods adopted during your eight years of service as editor and a member of its Board of Trustees. Whatever you have written possesses clearness, force and elegance, and your pen has served every good cause that had just demand upon it.

Church and Sunday school have also made large demands upon your time and unstintedly given. It is doubtful if there is any one living in the city of Chicago who has given as many consecutive years unselfishly to Sunday school work as yourself. The Union Park, the Tabernacle, Plymouth and Armour Mission should hold you in grateful remembrance, especially the latter, which grew out of a Mission Sunday School organized by yourself many years ago; and not only denominational, but all altruistic work have had your sympathy and assistance for the past half century. Hence, we find that the Chicago Bible Society, the American Sunday School Union, the Guardians of the Reform School, the Home Missionary Society, the New West Educational Society, the Chicago

Y. M. C. A., and the Congregational Club have all honored you with office worthily bestowed and honorably filled. But many and varied as have been your honors, the one which you should most highly prize is that of "Dear Old Doctor," affectionately conferred on you by friends and patients, some of whom are grandchildren of your earlier patrons. The kindly Providence which has left you sole survivor of the Vandalia meeting in 1856, has also given you richer gifts in the respect, love and confidence of all who have known you during all the years of your residence in the State of Illinois, for you have led not only an efficient, busy, useful life, but one in which you have found time for sympathy, counsel and prayer, as well as medical skill for your patients.

Wherever you have gone you have made the title of Doctor not only honored but beloved, for your unceasing, unselfish service, not alone to the rich and well-to-do, but also to the tempted and suffering, whether they deserved it or not. This you have done because of your abiding faith in the realities of the religion of Christ, to omit mention of which would be to ignore the guiding motive of your life. You have been a living epistle, "known and read of all men," overflowing with genuine pity; not the pity of the impracticable, medieval saint, but that needed by a clear-headed, active, consistent Chicago physician of the present day.

It must have been no small privilege to have been an integral part of the intense vitality of Chicago for more than half a century. It is a gift that has come to but few of the inhabitants of this great city, but it is a far greater honor to have lived there for fifty years unshaken in your devotion to what is right, true and of good report. A life such as yours is a public benefaction to the state and city in which it has been passed.

Absolute fidelity to duty is so rarely met with in these mad days of strife for honors and for wealth, that we sometimes question whether it longer exists. Your life has been proof to the contrary to all who have known you and most potently so to those who have known you longest and best.

"A great soul gives, a sordid one demands." You have been giving your life to humanity; your time, your service, your talents for the sake of Him whom you love to call Master. In the midst of the turmoils of the worshipers of Dungava the red-toothed God of Success, you have learned with Ruskin that "a man's wealth is measured by the number he loves and is loved by."

When the summons comes which shall call you up higher, the Illinois State Medical Society will have lost its wealthiest, because its best beloved member.

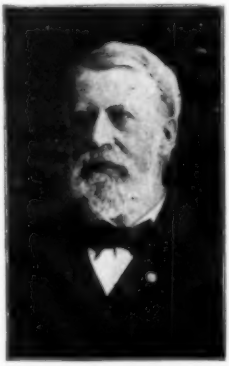
DR. WILLIAM O. ENSIGN.

When, on the 17th of May last year, Dr. William O. Ensign resigned his position as chairman and member of the Council of the Illinois State Medical Society, it marked an epoch in the work of one of the stalwarts of the society, and calls for some fitting recognition of the labor and influence of this pioneer worker. This memorial of his services to the

profession is prompted by a desire thus to honor him and express the esteem of his co-workers.

Dr. Ensign comes of Puritan lineage, being related on both sides to persons whose names are famous in the early history of Massachusetts and Connecticut. He was born in 1841 in Madison, Lake County, Ohio, where he passed his childhood and school days. He was raised in an atmosphere of medicine, his father, Dr. Caleb W. Ensign, being an early practitioner of western Massachusetts and one of the pioneer physicians of Ohio. As evidence of his patriotism, he enlisted early in 1861 in the artillery service, and supported his country through the Civil War. He was graduated from what is now known as the College of Physicians and Surgeons of Cleveland, Ohio, in 1869. He has been honored by Ad Eundem degrees from the medical departments of Western Reserve and Wooster universities.

Dr. Ensign's work in organization and in medical societies, in which his services have been particularly valuable, began almost immediately on



Dr. William O. Ensign.

entering the professional ranks. He united with the Woodford County Medical Society in 1873, and was one of the founders of the North Central Illinois Medical Association in 1874. He served as its secretary for fourteen years. He has been an active, valuable worker in the Illinois State Medical Society for thirty-four years. It is safe to say no member of that organization has labored more persistently and self-sacrificingly for its advancement, or done more to raise it to its present high state of effective usefulness than Dr. William O. Ensign. His efforts have been duly recognized by these societies, and he has served in various official capacities, as president, vice-president, chairman of sections, councilor and chairman of the council. In the last-named office he served for nearly four years previous to his voluntary retirement. Other medical organizations with which Dr. Ensign is affiliated are the American Medical Association for the past thirty years, also the American Association of Railway Surgeons and the Old Army and Navy Medical Association.

The whole professional life of this active and energetic man has been spent in the direction of medical organization and its support.

While a volume might be written detailing the events of a long and arduous professional career, the bounds of this memorial are limited to the relation of a few plain, unvarnished facts. No figures of speech are needed to tell the story of this, the best of his class. Perhaps no member of the State Society is better known or more highly esteemed for his many noble qualities of head and heart than Dr. Ensign. An old acquaintance and close associate said to me: "You can not use terms too strong in describing this grand old man." His life and example will be an inspiration for all who love medicine and seek medical progress, and now, with the sun of life past the zenith, he can watch the afternoon shadows lengthen to evening with the happy reflections of a useful and honorable career, and the unbounded esteem of his professional associates.

W. K. NEWCOMB.

MARRIAGES.

GEORGE STEURNAGEL, M.D., to Mrs. Jean L. Haskell, both of Chicago, April 27.

EDWARD W. BANKER, M.D., to Miss Lucile A. Donaldson, both of Aurora, Ill., April 24.

CLIFFORD GROSELLE GRULLE, M.D., Chicago, to Miss Margaret Freer of Hinsdale, Ill., April 24.

CHARLES EDWARD KLONTZ, M.D., to Miss Elizabeth Case, both of Cherry Valley, Ill., May 2.

LOUIS FERDINAND ALRUTZ, M.D., of Chicago, to Miss Helen Althea Truax of Kenosha, Wis., May 8.

WILLIAM SAMUEL BELLOWS, M.D., Waukegan, Ill., to Miss Isabelle Elizabeth Suess, Chicago, April 23.

FRED COLMAN NICHOLS, M.D., of El Paso, Ill., to Lois Fidelia Dorward of Enid, Okla., April 24, 1907.

CHARLES FOREST HENDERSON, M.D., South McAlester, I. T., to Miss May West, Bloomington, Ill., March 19.

DEATHS.

WILLIAM P. SUTHERLAND, M.D., died at his home in Stilwell, Ill., April 15, aged 74.

JOHN FLETCHER TIDWELL, M.D., a veteran of the Civil War, died at his home in Marion, Ill., from appendicitis, April 15, aged 66.

ADAM A. SIMMONS, M.D., Eclectic Medical Institute, Cincinnati, 1865; died at his home in Girard, Ill., April 22, aged about 80.

GEORGE LEIBROCK, M.D., Homeopathic Medical College of Missouri, St. Louis, 1879; died at his home in Mascoutah, Ill., January 24, aged 78.

AUGUST H. WARREN, M.D., New York University, New York City, 1886; formerly of LaGrange, Ill., was found dead in Quincy, Ill., April 16, aged 70.

GEORGE IRVIN, M.D., Jefferson Medical College, Philadelphia, 1855; died at his home in Aledo, Ill., April 22, from angina pectoris, after a short illness, aged 81.

ANABEL HOLMES, M.D., Woman's Medical College of Pennsylvania, Philadelphia, 1892; formerly of Chicago, died April 22, at her home in Portland, Ore., aged 43.

FREDERICK VOLZ, M.D., Jefferson Medical College, Philadelphia, 1892; died suddenly at his home in Bloomington, Ill., March 27, from pulmonary hemorrhage, aged 42.

HENRY SAWYER HAHN, M.D., Indiana Medical College, La Porte, 1848; city physician of Chicago in 1870, died at the residence of his daughter in that city, April 17, aged 81.

J. B. TENNEY, M.D., formerly of Atlanta, Ill., died April 25 at Clear Water, Fla., as a result of burns received in the destruction of his residence by fire. The remains were brought to Atlanta for interment.

LOIS J. SCHIFFERSTEIN, M.D., St. Louis Medical College, 1873; a member of the Illinois State and Effingham County medical societies; a practitioner of Effingham for twenty-five years, died at his home in that city, April 26, aged 57.

EZRA WEIS, M.D., University of Maryland School of Medicine, Baltimore, 1851; surgeon of Ashland, Ky., General Hospital during the Civil War; a practitioner of Peoria, Ill., for twenty years, died at his home in that city, April 12, aged 87.

NOAH SHEPARDSON, M.D., Bennett College of Eclectic Medicine and Surgery, Chicago, 1870; for many years a practitioner of Freemont, Ohio, and Rockford, Ill., a veteran of the Civil War, died at the home of his son, near Fremont, Ohio, May 8, from paresis, aged 71.

EDWIN GAYLORD, M.D., Rush Medical College, Chicago, 1856; Medical Department University of Nashville, Tenn., 1859; a veteran of the Civil War, and for many years a practitioner of Magnolia, Ill., died at his home in Pontiac, Ill., April 16, 1907, from pneumonia, aged 73.

DAVID WALLACE EDMISTON, M.D., Rush Medical College, Chicago, 1873; a member of the Illinois State and DeWitt County medical societies; a veteran of the Civil War and an esteemed practitioner of Clinton, Ill., died at his home in that city, May 10, after an illness of two weeks, from pneumonia, aged 69.

WALTER AUGUSTUS STEVENS, M.D., Rush Medical College, Chicago, 1887 (honorary degree); said to have been the oldest practicing dentist in Chicago; treasurer of the Illinois State Dental Society from 1890 to 1895, and president of the society in 1895; died at his home in Chicago, April 15, from the effects of a fracture of the hip, after an illness of almost a year, aged 76.

REPORT OF THE COUNCIL ON PHARMACY AND CHEMISTRY.*

ANTITHYROID PREPARATIONS.

Preparations obtained from the blood or milk of animals, after the removal of the thyroid glands. The use of these preparations is based on the theory that the thyroid gland secretes products which are toxic, but which neutralize, and are neutralized by, other toxic substances produced elsewhere in the body. Removal of the thyroid glands, therefore, leads to the accumulation of these second toxic substances as evidenced by the phenomena of cachexia strumipriva and myxedema. On the other hand, the blood or milk of such animals is capable of preventing the effects of a hypersecretion of thyroid substance, such as is supposed to occur in Basedow's disease (exophthalmic goiter). These views are still largely hypothetical; but the majority of clinical observers report markedly beneficial results in the milder forms of the disease and in obscure nervous disorders which are supposedly connected with thyroid hypersecretion. The effects are less pronounced in the more severe forms. The action is merely palliative and other measures of treatment should not be neglected. Improvement occurs in two or three weeks and is indicated by an amelioration of the nervous symptoms, tremors, palpitation, insomnia and excitability. The administration must be long continued. Oral and hypodermic administration are equally effective, but the former is usually preferred. These preparations are not toxic, even when very large doses are used.

ANTITHYROIDIN, MŒBIUS.

The blood-serum of sheep from which the thyroid gland has been removed at least six weeks before the blood is drawn, preserved by the addition of 0.5 per cent. of phenol.

Actions and Uses.—For actions and uses see Antithyroid Preparations. Dosage.—It is administered by the mouth in doses beginning with 0.5 to 1 Cc. (8 to 15 min.) three times a day, gradually increasing the dose as necessary. Manufactured by E. Merck, Darmstadt. (Merck & Co., New York).

ARGENTAMIN.

An aqueous solution of silver nitrate and ethylenediamine, corresponding to 10 per cent. of silver nitrate.

Actions and Uses.—It is antiseptic and astringent like other silver salts, with the asserted advantage of being non-irritant and more penetrating than silver nitrate. It is said to be useful in all cases where the non-caustic action of silver nitrate is indicated. Dosage.—It may be used in the anterior urethra in 0.25 to 1 per cent. solution; in the posterior urethra in from 1 to 4 per cent. solution; in ophthalmology in 5 per cent. solution. Manufactured by Chemische Fabrik auf Actien, vorm. E. Schering, Berlin. (Schering & Glatz, New York).

ARGONIN.

A soluble casein compound containing 4.28 per cent. of silver.

Actions and Uses.—Its action and uses are similar to those of silver nitrate, but it is claimed to have greater power of permeating living colloid membranes than other silver albumoses. It is applied as an injection in 0.1 to 0.2 per cent. solution; in ophthalmic practice a 10 to 20 per cent. solution in glycerin may be used. Dosage.—It is generally used in 0.5 per cent. solution, but even 20 per cent. solutions have been injected without producing irritant symptoms. Manufactured by Farbewerke vorm. Meister, Lucius & Bruening, Hoechst a. M. (Victor Koechl & Co., New York).

ARGYROL.

A compound of a derived proteid and silver oxide, containing from 20 to 25 per cent. of silver.

Actions and Uses.—Solutions of argyrol (20 to 50 per cent.) are said to be non-irritating to mucous membranes. Taken internally it is said to be non-toxic. It is claimed to be an antiseptic. It is recommended in urethritis and cystitis, in conjunctivitis and in affections of the nose, throat and ear. Dosage.—It is employed in from 10 to 25 per cent. and even stronger solutions. Manufactured by Barnes & Hille, Philadelphia.

*Reprinted from The Journal of the American Medical Association.

(To be continued.)

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This list is corrected in accordance with the best information obtainable at the date of going to press. County Secretaries are requested to notify THE JOURNAL of any changes or errors.

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